tide cnn1

Lucy Score = Throughput x Availability x Acc / 10,000. LPD condenses live-fit vs Acc-champ RAM.
[T]=Tween [S]=Split [FP]=FastProxy [L]=Linear [HP]=HeadProxy
done - epoch 1/1 (1 left, 100% overall) - lr unset - 2026-08-23 13:32:50 -
This epoch 2346 / 2346 cells. Recorded 2346 results. Learning rate unset.
Score 0 usually means the cell finished before a Lucy pulse (Acc never sampled). Score is live-fit: Throughput x Availability x Acc.
SGD that blocks serve dies on Availability. SoftAcc is serve-confidence only.
pi_collection - cnn1 - offline report

Lucy champions (this tide)

Axis	Cell	Score	Soft	Acc	Thru	Avail
hard acc	float32|none|tween_chain|single|simd	1835.19	41.5	94.0	11336.5	39.0
throughput	float32|none|[T][S][FP]|single|simd	1550.76	25.6	80.4	12621.2	48.0
availability	float32|none|[T][S][FP]|single|simd	1550.76	25.6	80.4	12621.2	48.0
lucy score	float32|none|tween_chain|single|simd	1835.19	41.5	94.0	11336.5	39.0
mobile score (trap)	binary|none|[T][S][FP]|single|simd	1258.86	24.9	24.3	11274.5	44.9
t->50%	int|none|sgd|tricameral|simd	8.66	18.1	24.8	216.1	22.1
acc/sec	float32|none|tween_chain|single|simd	1835.19	41.5	94.0	11336.5	39.0

Lucy axis champions (this tide)

Axis	Mode	DType	Arch	Value
hard_acc	[T][S]Sparse	float16	singlex1	94.67
throughput	[T][S][FP]	float32	singlex1	12621.18
availability	[T][S][FP]	float32	singlex1	47.96
score	tween_chain	float32	singlex1	1835.19
soft_acc	tween_chain	float32	singlex1	41.49
acc_thru	tween_chain	float32	singlex1	10651.59
realtime	[T][S][FP]	float32	singlex1	6053.30
adapt	step_tween_chain	float32	singlex1	43.87
keep_learn	sgd	float64	singlex1	20.50
acc_per_sec	tween_chain	float32	singlex1	20.22
time_to_50	sgd	int	tricameralx3	0.08
consistency	sgd	float16	singlex1	100.00
stability	tween	fp4	tricameralx3	100.00
mobile_score	[T][S][FP]	binary	singlex1	44000184~
lpd	[T][S][HP]	int3	singlex1	2.94
mspeed	[T][S][FP]	float32	singlex1	1.00
mavail	[T][S][FP]	float32	singlex1	1.00
mix	[T][S][FP]	float32	singlex1	0.95
gold_std	Mesh[T][S]	uint6	singlex1	0.18

Best settings per train mode

Mode	DType	Format	Score	Soft	Acc	Avail	n
tween_chain	float32	none	1835.2	41.5	94.0	39.0	102
sgd	float32	none	1817.8	37.9	89.1	40.5	102
[T][S][FP]	float32	none	1550.8	25.6	80.4	48.0	102
Mesh[T]Chain	float32	none	1325.6	35.5	74.3	39.9	102
MeshBP	float32	none	1305.3	37.4	83.8	39.3	102
step_sgd	float32	none	1283.9	39.5	89.1	33.1	102
tween	float32	none	1129.1	25.7	61.3	39.2	102
[T][S]	int4	none	1052.0	24.9	30.9	40.8	102
[T][S][L]Cache	int4	none	965.9	25.0	3.8	43.6	102

step_tween_chain	int8	none	941.8	28.9	77.7	38.5	102
[T][S][HP]Async	float32	none	841.3	25.0	22.3	42.4	102
[T][S][HP]	float32	none	838.0	25.5	54.0	35.4	102
[T][S]Sparse	float32	none	798.4	26.1	86.5	43.6	102
Mesh[T][S]	float32	none	746.8	25.0	29.5	45.3	102
step_tween	int4	none	731.1	24.7	5.0	35.2	102
Step[T][S]	int8	none	700.1	25.1	44.1	37.9	102
Mesh[T]	float32	none	698.9	25.5	42.9	33.4	102
[T][S][L]	float32	none	633.5	25.5	54.2	34.1	102
Mesh[T][S][FP]	int8	none	597.9	25.4	55.5	45.7	102
Mesh[T][S]Sparse	int8	none	502.0	25.3	34.5	43.8	102
[T]Alt	float32	none	414.2	26.3	50.0	30.3	102
Mesh[T]Alt	float32	none	331.9	25.0	47.0	34.2	102
Step[T]Alt	ternary	none	286.7	25.0	31.6	25.9	102

Best dtype per mode

Mode	Winner dtype	Score	Soft	Acc
tween_chain	float32	1835.2	41.5	94.0
sgd	float32	1817.8	37.9	89.1
[T][S][FP]	float32	1550.8	25.6	80.4
Mesh[T]Chain	float32	1325.6	35.5	74.3
MeshBP	float32	1305.3	37.4	83.8
step_sgd	float32	1283.9	39.5	89.1
tween	float32	1129.1	25.7	61.3
[T][S]	int4	1052.0	24.9	30.9
[T][S][L]Cache	int4	965.9	25.0	3.8
step_tween_chain	int8	941.8	28.9	77.7
[T][S][HP]Async	float32	841.3	25.0	22.3
[T][S][HP]	float32	838.0	25.5	54.0
[T][S]Sparse	float32	798.4	26.1	86.5
Mesh[T][S]	float32	746.8	25.0	29.5
step_tween	int4	731.1	24.7	5.0
Step[T][S]	int8	700.1	25.1	44.1
Mesh[T]	float32	698.9	25.5	42.9
[T][S][L]	float32	633.5	25.5	54.2
Mesh[T][S][FP]	int8	597.9	25.4	55.5
Mesh[T][S]Sparse	int8	502.0	25.3	34.5
[T]Alt	float32	414.2	26.3	50.0
Mesh[T]Alt	float32	331.9	25.0	47.0
Step[T]Alt	ternary	286.7	25.0	31.6

Best mode per dtype

DType	Winner mode	Score	Soft	Acc
float32	tween_chain	1835.2	41.5	94.0
int8	[T][S][FP]	1437.3	25.3	35.7
int2	[T][S][FP]	1318.8	25.2	33.1
int4	[T][S][FP]	1287.2	25.2	35.0
ternary	[T][S][FP]	1276.0	24.9	38.7
binary	[T][S][FP]	1258.9	24.9	24.3
float64	sgd	1127.4	37.4	82.0
fp4	[T][S][FP]	1113.3	25.0	25.7
uint8	tween_chain	1072.8	30.2	86.3

bfloat16	tween_chain	986.4	37.7	89.7
float16	step_sgd	937.0	37.6	88.4
uint16	[T][S][FP]	807.7	25.3	46.9
uint64	[T][S][FP]	803.0	25.5	68.6
fp8e5m2	[T][S][FP]	803.0	25.2	45.8
uint32	[T][S][FP]	798.8	25.3	41.9
uint4	[T][S][FP]	757.5	24.9	1.2
complex128	sgd	756.2	39.5	89.3
complex64	tween_chain	752.0	39.1	89.6
int16	[T][S][FP]	744.9	25.1	14.5
int	sgd	733.9	37.3	83.7
int32	[T][S][FP]	733.4	25.1	33.1
int64	sgd	725.8	35.7	80.4
uint2	[T][S][FP]	722.2	25.2	36.2
fp8e4m3	[T][S][FP]	697.2	25.2	50.9
uint	[T][S][FP]	670.5	25.8	85.8
uintptr	sgd	625.0	28.7	87.0
uint3	[T][S][FP]	572.7	25.3	33.0
nf4	[T][S][FP]	566.6	25.2	51.6
int3	[T][S][FP]	565.6	25.1	33.0
int5	[T][S][FP]	481.1	25.1	26.6
uint6	[T][S][FP]	462.2	25.7	53.3
uint5	[T][S]	435.5	25.1	28.5
int6	[T][S][FP]	409.2	25.2	26.6
fp6	[T][S][FP]	363.2	24.9	19.6

Leaderboard (Lucy Score)

#	Cell	Score	Soft	Acc	Thru	Avail
1	float32|none|tween_chain|single|simd	1835.2	41.5	94.0	11336.5	39.0
2	float32|none|sgd|single|simd	1817.8	37.9	89.1	11828.0	40.5
3	float32|none|[T][S][FP]|single|simd	1550.8	25.6	80.4	12621.2	48.0
4	int8|none|[T][S][FP]|single|simd	1437.3	25.3	35.7	12085.8	47.0
5	float32|none|Mesh[T]Chain|single|simd	1325.6	35.5	74.3	9360.0	39.9
6	int2|none|[T][S][FP]|single|simd	1318.8	25.2	33.1	11557.3	45.2
7	float32|none|MeshBP|single|simd	1305.3	37.4	83.8	8889.6	39.3
8	int4|none|[T][S][FP]|single|simd	1287.2	25.2	35.0	11317.8	45.2
9	float32|none|step_sgd|single|simd	1283.9	39.5	89.1	9812.8	33.1
10	ternary|none|[T][S][FP]|single|simd	1276.0	24.9	38.7	11416.4	44.8
11	binary|none|[T][S][FP]|single|simd	1258.9	24.9	24.3	11274.5	44.9
12	int4|none|sgd|single|simd	1172.0	24.3	28.1	12023.2	40.1
13	float32|none|tween|single|simd	1129.1	25.7	61.3	11204.8	39.2
14	float64|none|sgd|single|simd	1127.4	37.4	82.0	8395.6	35.9
15	float64|none|[T][S][FP]|single|simd	1121.2	25.9	84.1	9316.0	46.5
16	fp4|none|[T][S][FP]|single|simd	1113.3	25.0	25.7	9897.7	45.0
17	int8|none|sgd|single|simd	1086.0	27.2	78.3	10568.4	37.8
18	uint8|none|tween_chain|single|simd	1072.8	30.2	86.3	9469.7	37.5
19	uint8|none|[T][S][FP]|single|simd	1069.7	25.3	49.6	9196.8	46.1
20	binary|none|sgd|single|simd	1063.8	24.6	13.5	11303.7	38.3

Leaderboard (SoftAcc)

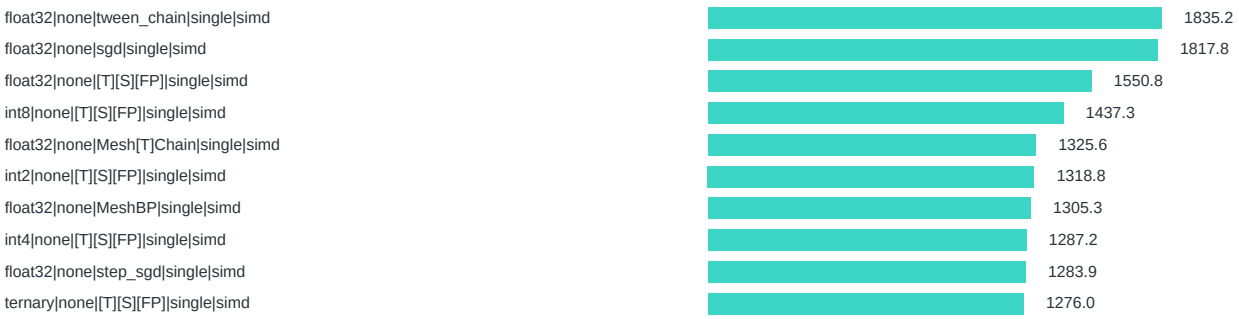
#	Cell	Score	Soft	Acc	Thru	Avail
1	float32|none|tween_chain|single|simd	1835.2	41.5	94.0	11336.5	39.0

2	float32|none|step_sgd|single|simd	1283.9	39.5	89.1	9812.8	33.1
3	float64|none|tween_chain|single|simd	1012.6	38.9	90.5	7010.4	37.1
4	float32|none|sgd|single|simd	1817.8	37.9	89.1	11828.0	40.5
5	bfloat16|none|tween_chain|single|simd	986.4	37.7	89.7	7553.5	34.6
6	float16|none|step_sgd|single|simd	937.0	37.6	88.4	7029.3	35.5
7	float64|none|sgd|single|simd	1127.4	37.4	82.0	8395.6	35.9
8	float32|none|MeshBP|single|simd	1305.3	37.4	83.8	8889.6	39.3
9	bfloat16|none|sgd|single|simd	930.8	36.8	86.7	7578.2	33.4
10	float32|none|Mesh[T]Chain|single|simd	1325.6	35.5	74.3	9360.0	39.9
11	uint8|none|tween_chain|single|simd	1072.8	30.2	86.3	9469.7	37.5
12	int8|none|step_tween_chain|single|simd	941.8	28.9	77.7	8464.0	38.5
13	uint8|none|sgd|single|simd	921.1	28.2	87.3	9544.0	34.3
14	int8|none|Mesh[T]Chain|single|simd	906.1	27.9	67.7	7860.3	41.3
15	int8|none|sgd|single|simd	1086.0	27.2	78.3	10568.4	37.8
16	binary|none|[T][S][L]Cache|single|simd	916.2	26.0	42.7	8076.3	43.7
17	float64|none|[T][S][FP]|single|simd	1121.2	25.9	84.1	9316.0	46.5
18	float32|none|tween|single|simd	1129.1	25.7	61.3	11204.8	39.2
19	float32|none|[T][S][FP]|single|simd	1550.8	25.6	80.4	12621.2	48.0
20	int8|none|[T][S][L]Cache|single|simd	912.9	25.5	52.4	8194.8	43.7

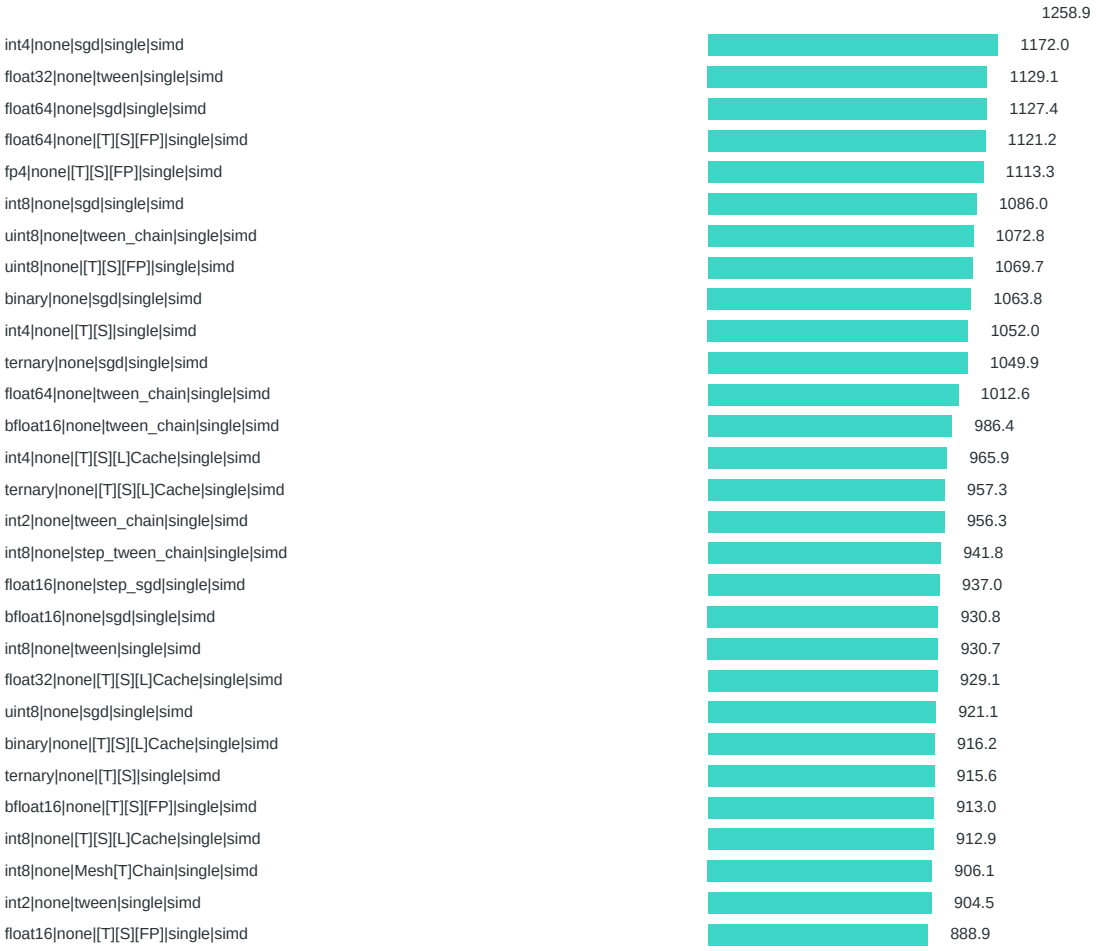
Leaderboard (hard Acc)

#	Cell	Score	Soft	Acc	Thru	Avail
1	float32|none|tween_chain|single|simd	1835.2	41.5	94.0	11336.5	39.0
2	float64|none|tween_chain|single|simd	1012.6	38.9	90.5	7010.4	37.1
3	bfloat16|none|tween_chain|single|simd	986.4	37.7	89.7	7553.5	34.6
4	float32|none|step_sgd|single|simd	1283.9	39.5	89.1	9812.8	33.1
5	float32|none|sgd|single|simd	1817.8	37.9	89.1	11828.0	40.5
6	float16|none|step_sgd|single|simd	937.0	37.6	88.4	7029.3	35.5
7	uint8|none|sgd|single|simd	921.1	28.2	87.3	9544.0	34.3
8	bfloat16|none|sgd|single|simd	930.8	36.8	86.7	7578.2	33.4
9	uint8|none|tween_chain|single|simd	1072.8	30.2	86.3	9469.7	37.5
10	float64|none|[T][S][FP]|single|simd	1121.2	25.9	84.1	9316.0	46.5
11	float32|none|MeshBP|single|simd	1305.3	37.4	83.8	8889.6	39.3
12	float64|none|sgd|single|simd	1127.4	37.4	82.0	8395.6	35.9
13	float32|none|[T][S][FP]|single|simd	1550.8	25.6	80.4	12621.2	48.0
14	int8|none|sgd|single|simd	1086.0	27.2	78.3	10568.4	37.8
15	int8|none|step_tween_chain|single|simd	941.8	28.9	77.7	8464.0	38.5
16	float32|none|Mesh[T]Chain|single|simd	1325.6	35.5	74.3	9360.0	39.9
17	int8|none|Mesh[T]Chain|single|simd	906.1	27.9	67.7	7860.3	41.3
18	int8|none|tween|single|simd	930.7	25.0	67.2	10051.7	37.1
19	float32|none|tween|single|simd	1129.1	25.7	61.3	11204.8	39.2
20	int8|none|[T][S][L]Cache|single|simd	912.9	25.5	52.4	8194.8	43.7

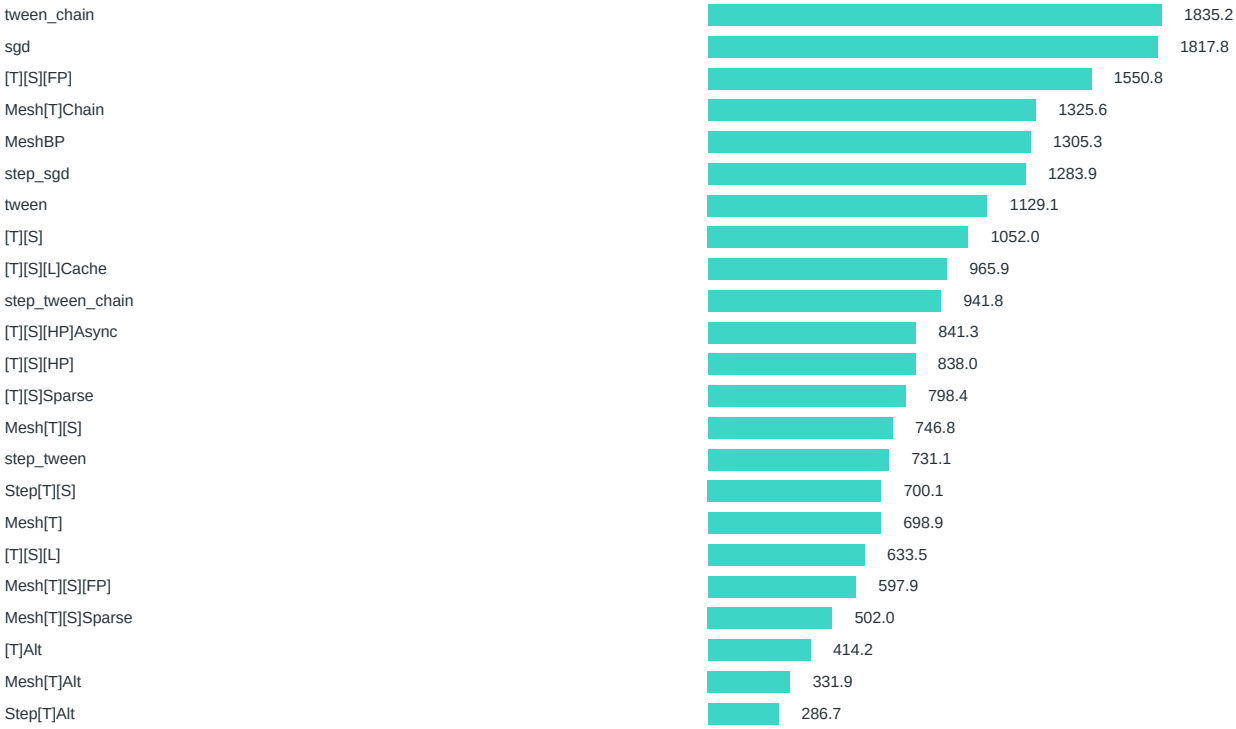
Top scores



binary|none|[T][S][FP]|single|simd



Best settings per mode

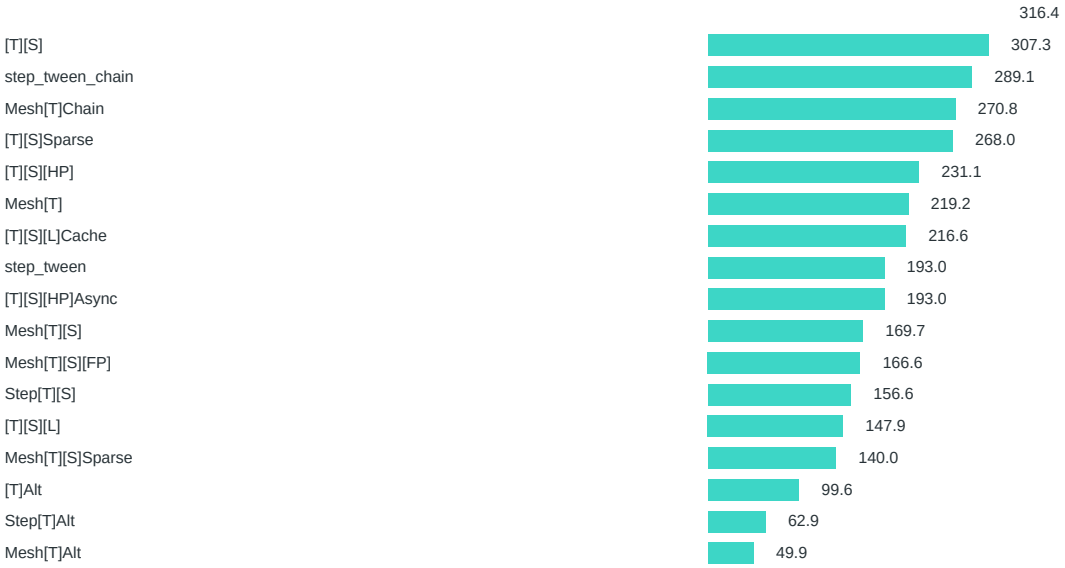


Mean Score by train mode

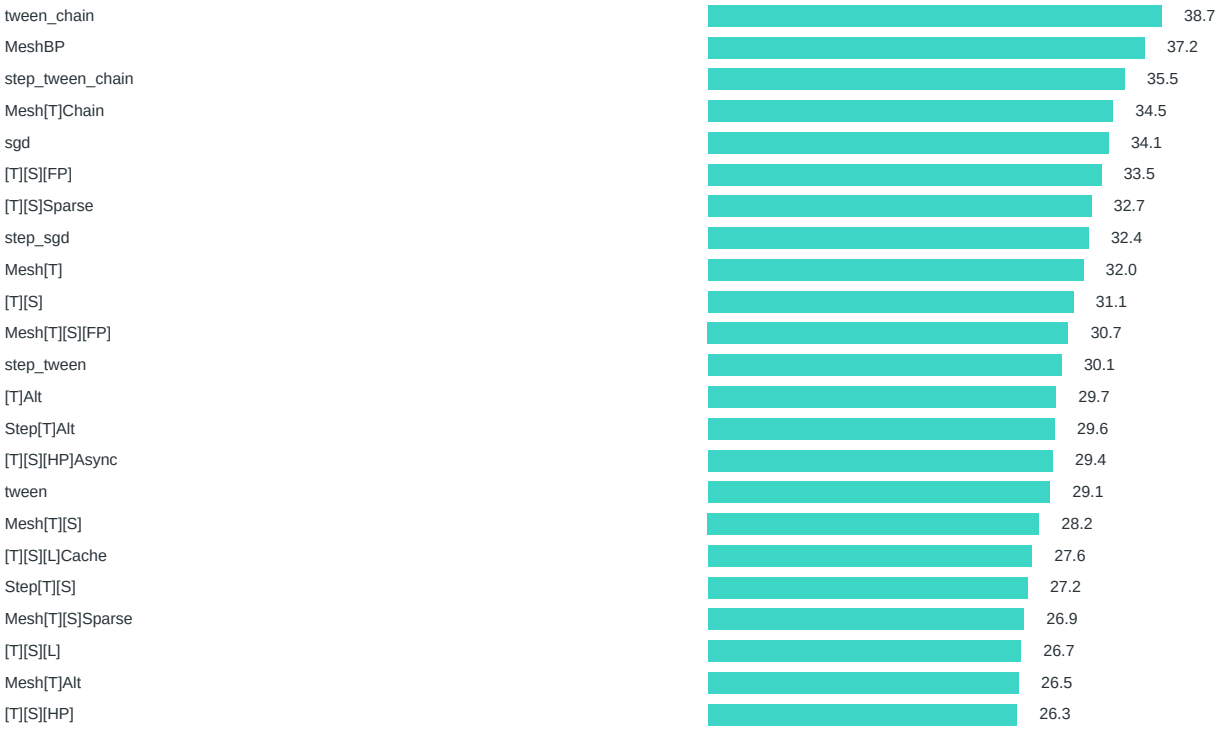


tween

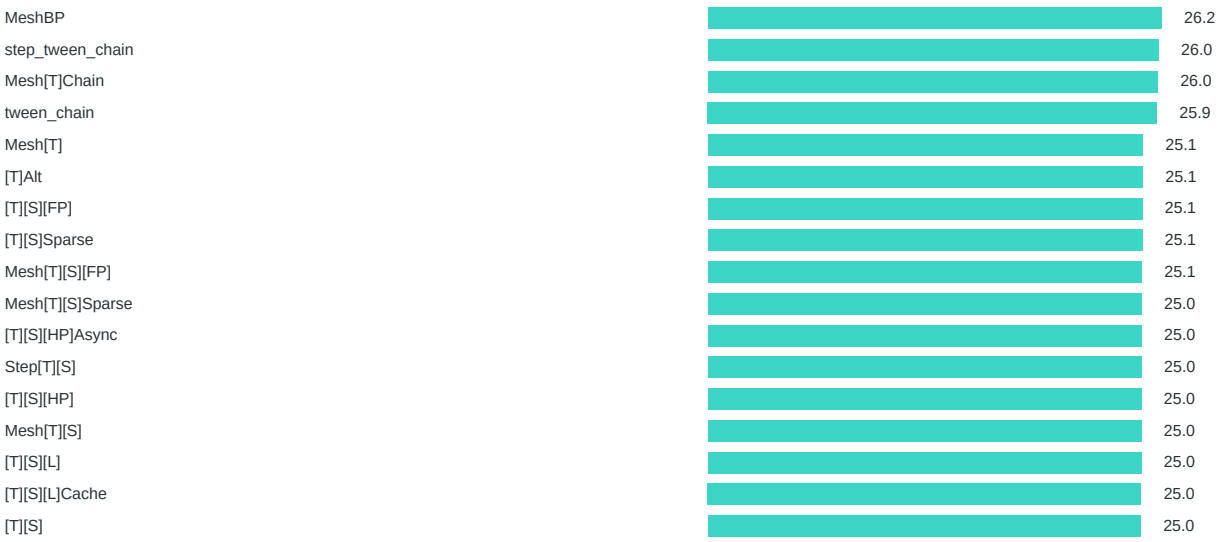




Mean hard Acc by train mode



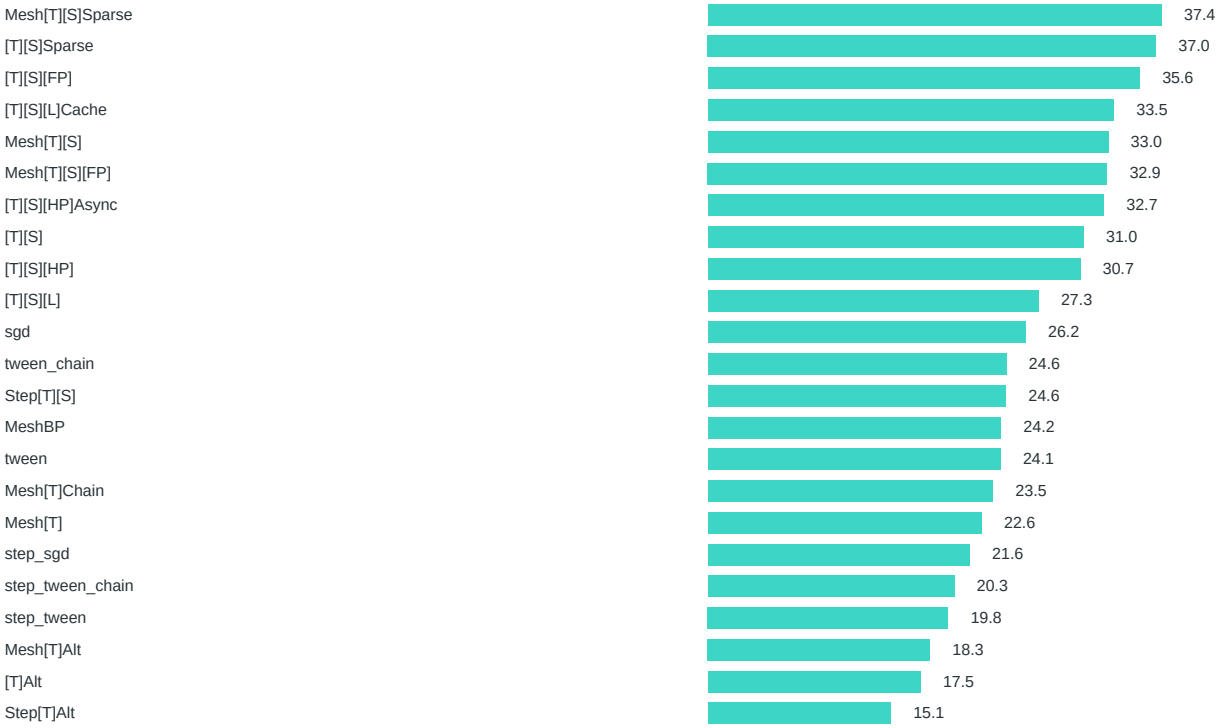
Mean SoftAcc by train mode



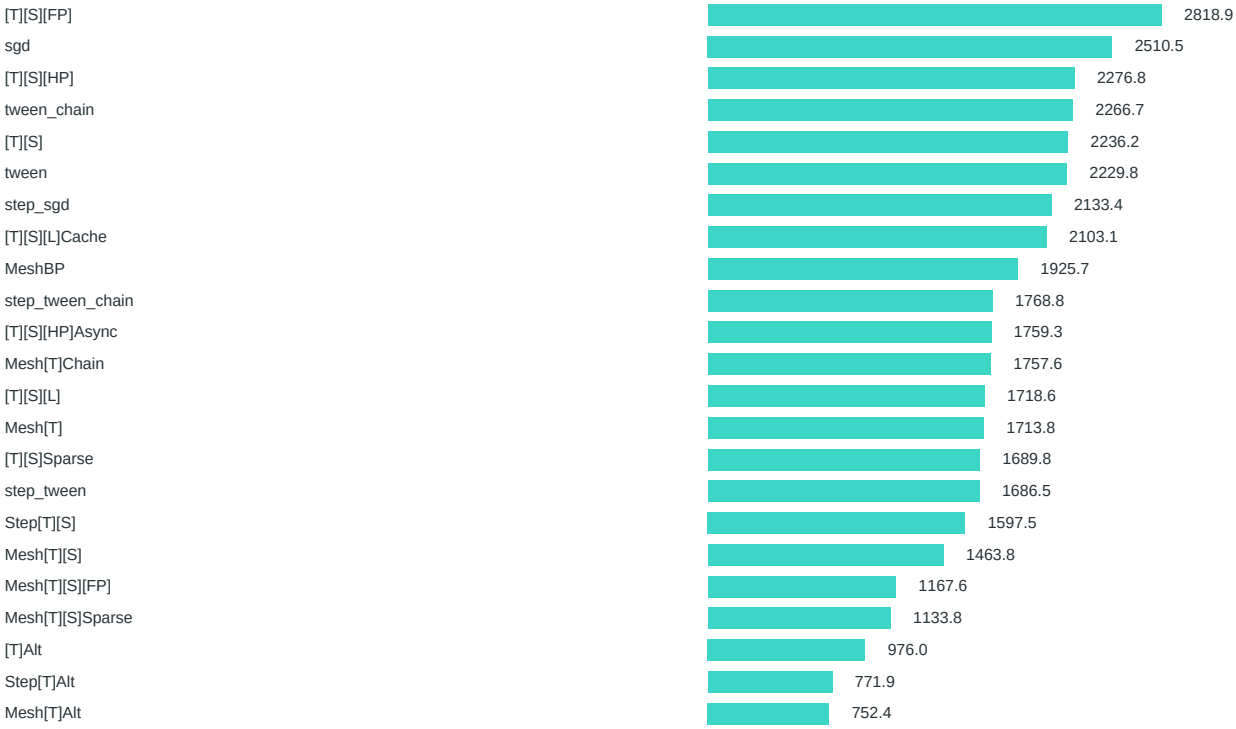




Mean Availability by train mode



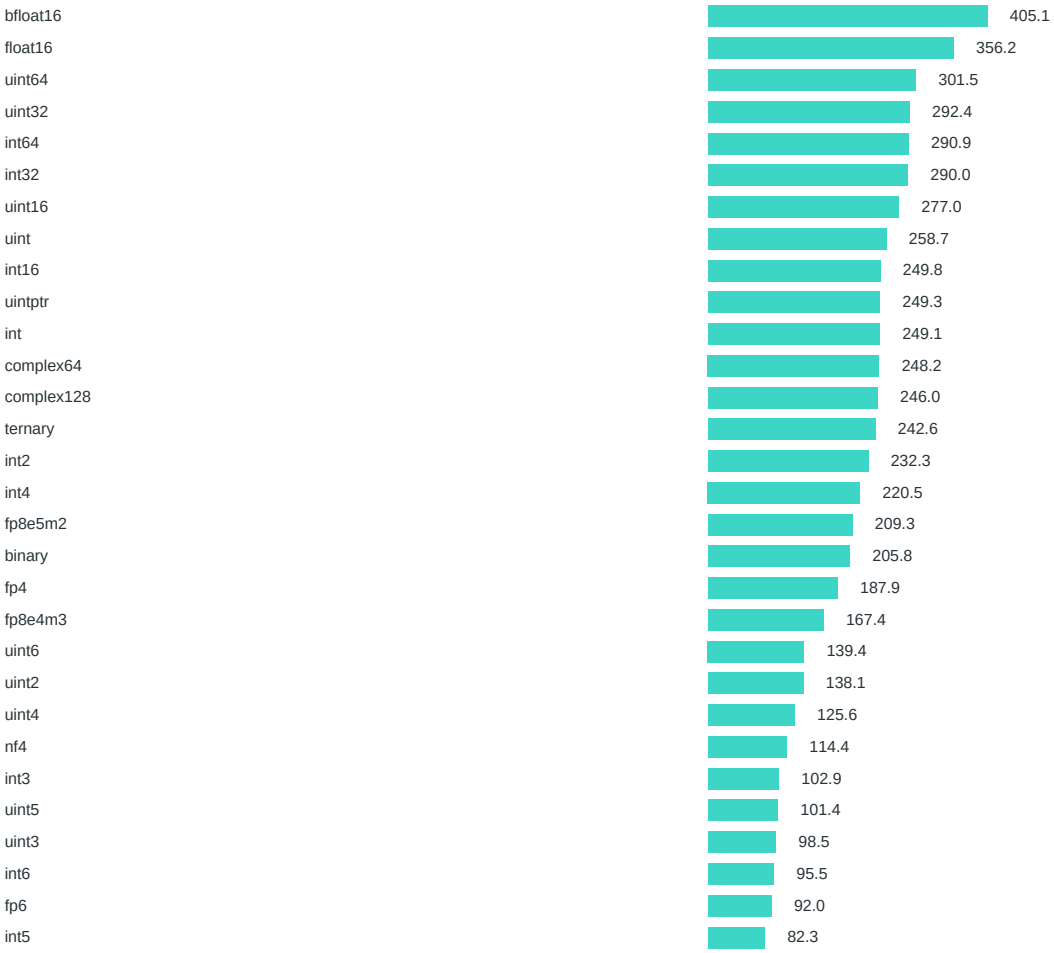
Mean Throughput by train mode



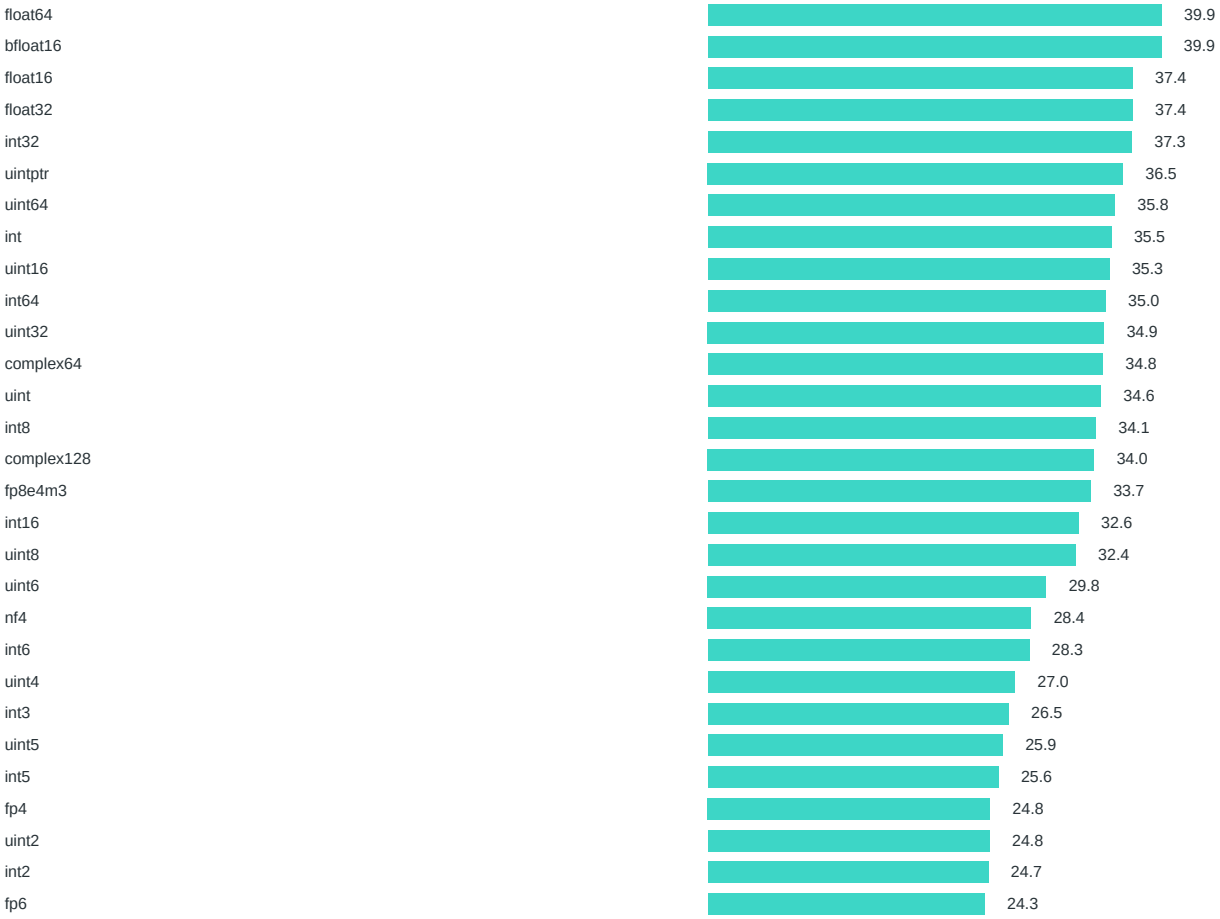
Mean Score by dtype



Mean Score by dtype



Mean hard Acc by dtype



Mean hard Acc by dtype



Mean Score by arch



Honesty - mean Score, every mode x dtype (cols 1-12)

	bfloat16	binary	complex128	complex64	float16	float32	float64	fp4	fp6	fp8e4m3	fp8e5m2	int
MeshBP	507	157	317	458	494	1009	457	226	177	209	338	391
Mesh[T]	347	107	225	140	309	406	275	142	74	166	224	231
Mesh[T]Alt	66	3	12	92	51	208	125	48	16	1	65	24
Mesh[T]Chain	434	126	279	316	293	953	405	195	194	123	155	374
Mesh[T][S]	321	398	188	158	245	330	256	167	145	144	39	100
Mesh[T][S][FP]	211	65	108	158	234	307	225	163	51	230	346	184
Mesh[T][S]Sparse	149	219	124	180	113	144	287	141	2	123	39	55
Step[T]Alt	49	28	44	54	89	118	125	56	11	42	93	52
Step[T][S]	157	198	183	185	297	250	273	158	83	119	77	170
[T]Alt	126	133	102	128	136	295	242	45	13	21	119	76
[T][S]	499	157	342	242	355	622	407	297	64	284	152	275
[T][S][FP]	554	476	154	544	462	1705	1258	405	97	521	516	531
[T][S][HP]	256	217	162	16	122	634	453	251	133	248	30	303
[T][S][HP]Async	464	420	214	189	242	312	283	203	80	94	240	149
[T][S][L]	253	117	140	98	220	499	240	158	16	154	154	114
[T][S][L]Cache	650	511	347	163	475	284	170	283	74	60	357	41
[T][S]Sparse	464	284	59	146	647	1068	550	188	126	13	227	280
sgd	769	211	574	517	677	1496	840	215	330	180	297	557
step_sgd	692	62	573	492	740	1023	609	164	78	415	259	473
step_tween	508	76	222	195	365	324	515	224	22	50	110	171
step_tween_chain	486	159	402	355	554	735	622	122	78	239	205	245
tween	551	212	344	297	413	938	524	225	39	144	273	394
tween_chain	806	398	542	585	659	1474	815	244	210	271	500	538

Honesty - mean Score, every mode x dtype (cols 13-24)

Honesty - mean Score, every mode x dtype (cols 13-24)

	int16	int2	int3	int32	int4	int5	int6	int64	int8	nf4	ternary	uint
MeshBP	481	343	125	317	103	185	200	466	827	85	125	193
Mesh[T]	297	128	92	326	354	68	36	203	541	84	251	296
Mesh[T]Alt	89	58	29	63	8	28	2	69	53	27	75	36
Mesh[T]Chain	363	62	48	243	107	48	146	329	748	192	197	215
Mesh[T][S]	155	389	66	97	211	15	90	133	306	211	81	163
Mesh[T][S][FP]	262	361	28	101	78	65	18	333	479	92	71	78
Mesh[T][S]Sparse	164	104	87	99	193	58	66	188	308	54	350	202
Step[T]Alt	91	36	21	64	99	26	18	69	127	52	130	73
Step[T][S]	181	190	42	194	137	65	59	179	458	36	140	66
[T]Alt	66	103	26	147	131	53	21	119	226	19	133	72
[T][S]	358	324	227	466	475	147	155	597	317	51	481	287
[T][S][FP]	163	614	271	352	657	180	161	569	706	390	728	772
[T][S][HP]	31	16	345	485	314	83	156	87	418	50	330	419
[T][S][HP]Async	126	64	313	192	103	181	82	212	409	38	54	135
[T][S][L]	134	199	10	223	15	154	15	23	82	207	383	153
[T][S][L]Cache	156	308	179	328	98	16	157	443	683	30	390	20
[T][S]Sparse	101	459	19	304	398	108	44	121	567	108	477	285
sgd	662	521	114	511	477	112	191	550	1097	86	322	627
step_sgd	443	231	59	490	121	35	117	497	757	108	406	509
step_tween	177	271	35	320	88	18	42	241	566	74	31	259
step_tween_chain	340	149	52	395	208	86	152	427	865	93	132	336
tween	383	99	99	440	330	59	51	342	875	301	241	363
tween_chain	524	314	80	513	366	102	218	493	941	243	51	391

Honesty - mean Score, every mode x dtype (cols 25-34)

Honesty - mean Score, every mode x dtype (cols 25-34)

	uint16	uint2	uint3	uint32	uint4	uint5	uint6	uint64	uint8	uintptr
MeshBP	296	167	109	542	90	124	217	445	741	306
Mesh[T]	293	116	102	291	100	72	92	330	536	199
Mesh[T]Alt	75	39	19	61	58	28	5	33	71	59
Mesh[T]Chain	348	92	148	307	93	97	138	394	667	375
Mesh[T][S]	209	59	16	211	140	103	291	166	103	60
Mesh[T][S][FP]	131	105	38	183	94	71	73	242	231	250
Mesh[T][S]Sparse	229	19	133	120	144	5	91	175	250	146
Step[T]Alt	138	34	7	54	37	12	12	57	157	65
Step[T][S]	245	95	55	254	118	70	62	79	246	201
[T]Alt	103	41	40	134	71	16	37	120	168	104
[T][S]	296	297	177	344	325	170	90	367	452	349
[T][S][FP]	534	367	281	491	46	129	321	764	709	467
[T][S][HP]	276	248	137	189	24	204	304	278	378	257
[T][S][HP]Async	89	138	129	179	206	129	159	205	361	170
[T][S][L]	144	117	197	183	67	53	95	197	63	153
[T][S][L]Cache	66	51	38	74	193	225	133	42	305	14
[T][S]Sparse	82	221	107	265	209	147	185	286	416	153
sgd	623	71	99	472	167	210	301	772	980	645
step_sgd	485	128	65	672	142	94	128	446	607	501
step_tween	229	178	56	245	136	30	11	222	344	209
step_tween_chain	453	124	98	331	78	41	115	288	586	279
tween	517	269	72	589	108	57	48	367	419	372
tween_chain	510	199	143	538	240	245	297	659	1030	402

Honesty - mean hard Acc, every mode x dtype (cols 1-12)

Honesty - mean hard Acc, every mode x dtype (cols 1-12)

	bfloat16	binary	complex128	complex64	float16	float32	float64	fp4	fp6	fp8e4m3	fp8e5m2	int
MeshBP	59	35	50	50	43	45	51	24	35	52	26	38
Mesh[T]	50	25	32	37	33	23	29	26	39	20	31	47
Mesh[T]Alt	24	13	23	35	21	16	26	20	36	2	29	7
Mesh[T]Chain	55	25	45	49	48	47	44	25	27	42	24	46
Mesh[T][S]	21	29	30	22	50	32	34	23	24	37	9	34
Mesh[T][S][FP]	47	18	28	36	33	22	50	30	27	49	37	33
Mesh[T][S]Sparse	22	26	28	41	26	34	43	25	6	28	14	14
Step[T]Alt	15	24	27	21	38	33	31	28	38	27	35	33
Step[T][S]	24	30	27	29	30	22	42	28	28	26	20	27
[T]Alt	34	22	47	30	40	45	41	24	17	16	24	35
[T][S]	28	26	30	30	39	38	43	24	28	20	27	36
[T][S][FP]	30	28	16	48	28	46	43	24	9	45	30	44
[T][S][HP]	29	28	17	5	24	31	26	30	18	52	9	30
[T][S][HP]Async	58	29	51	14	38	32	37	25	14	39	18	31
[T][S][L]	18	28	21	29	21	37	39	21	7	49	11	31
[T][S][L]Cache	53	19	39	14	44	20	21	27	22	42	28	17
[T][S]Sparse	36	30	31	49	59	55	46	24	25	1	17	58
sgd	64	14	40	48	36	50	37	23	38	49	22	41
step_sgd	62	17	43	47	42	56	49	22	27	44	22	46
step_tween	40	14	29	49	38	28	45	23	16	27	19	47
step_tween_chain	57	18	45	40	46	54	43	24	28	40	29	41
tween	30	19	37	32	33	35	45	25	19	24	29	29
tween_chain	62	30	46	46	49	60	50	25	34	45	32	53

Honesty - mean hard Acc, every mode x dtype (cols 13-24)

Honesty - mean hard Acc, every mode x dtype (cols 13-24)

	int16	int2	int3	int32	int4	int5	int6	int64	int8	nf4	ternary	uint
MeshBP	47	23	17	41	13	44	40	45	42	36	20	32
Mesh[T]	36	15	46	33	35	19	28	34	44	17	29	36
Mesh[T]Alt	43	28	26	26	21	32	31	26	13	27	16	41
Mesh[T]Chain	43	11	13	55	12	28	42	39	33	41	22	39
Mesh[T][S]	22	29	26	24	22	24	23	41	24	50	12	15
Mesh[T][S][FP]	33	49	14	35	24	15	15	42	39	23	14	19
Mesh[T][S]Sparse	31	29	36	20	21	33	16	37	31	25	25	25
Step[T]Alt	32	30	22	28	31	20	23	31	38	37	40	43
Step[T][S]	20	32	33	32	27	18	22	28	39	28	20	19
[T]Alt	25	19	28	39	21	27	26	32	34	19	27	20
[T][S]	40	24	45	47	28	31	28	52	24	10	28	34
[T][S][FP]	18	22	39	30	29	30	36	48	22	22	34	51
[T][S][HP]	18	6	58	48	24	26	27	12	24	24	23	44
[T][S][HP]Async	24	20	40	25	14	38	41	46	23	27	9	28
[T][S][L]	30	27	9	31	10	40	21	11	34	36	43	30
[T][S][L]Cache	41	26	32	51	25	11	36	32	41	19	21	17
[T][S]Sparse	27	41	11	33	27	27	31	15	32	46	33	35
sgd	40	34	17	37	25	19	21	35	42	18	24	54
step_sgd	33	27	13	49	21	9	30	48	40	17	30	33
step_tween	39	22	22	48	24	13	17	32	44	31	23	45
step_tween_chain	41	20	18	39	17	38	40	38	38	29	16	55
tween	26	20	25	33	19	21	17	33	38	38	25	45
tween_chain	40	17	15	56	33	25	39	47	45	35	24	36

Honesty - mean hard Acc, every mode x dtype (cols 25-34)

Honesty - mean hard Acc, every mode x dtype (cols 25-34)

	uint16	uint2	uint3	uint32	uint4	uint5	uint6	uint64	uint8	uintptr
MeshBP	56	19	29	47	22	23	29	53	33	45
Mesh[T]	26	24	20	53	33	21	28	42	39	38
Mesh[T]Alt	26	39	28	30	52	30	17	27	26	43
Mesh[T]Chain	43	11	25	40	26	19	35	41	38	37
Mesh[T][S]	46	30	14	36	21	42	29	20	22	45
Mesh[T][S][FP]	31	34	29	25	35	24	32	37	21	44
Mesh[T][S]Sparse	45	20	34	24	42	12	26	31	19	25
Step[T]Alt	36	15	12	22	21	24	16	46	41	48
Step[T][S]	35	25	19	40	23	27	37	25	18	27
[T]Alt	34	36	22	37	22	32	35	36	36	26
[T][S]	25	23	35	37	32	20	19	41	35	31
[T][S][FP]	35	31	42	47	19	54	20	59	22	40
[T][S][HP]	33	35	13	20	3	25	32	22	48	30
[T][S][HP]Async	25	15	25	24	27	19	39	43	34	25
[T][S][L]	42	22	37	23	34	17	19	30	9	42
[T][S][L]Cache	29	29	21	12	13	41	36	15	33	13
[T][S]Sparse	14	24	22	47	50	20	66	24	34	21
sgd	38	17	19	46	19	24	33	48	43	47
step_sgd	36	17	12	44	19	13	22	38	34	39
step_tween	34	26	23	27	29	26	20	23	38	42
step_tween_chain	34	29	29	44	27	25	43	34	47	42
tween	42	27	15	31	22	22	14	41	38	41
tween_chain	45	20	18	46	31	37	37	49	36	52

Honesty - mean SoftAcc, every mode x dtype (cols 1-12)

Honesty - mean SoftAcc, every mode x dtype (cols 1-12)

	bfloat16	binary	complex128	complex64	float16	float32	float64	fp4	fp6	fp8e4m3	fp8e5m2	int
MeshBP	29	25	29	29	28	29	28	25	25	25	25	29
Mesh[T]	25	25	25	25	25	25	25	25	25	25	25	25
Mesh[T]Alt	25	25	25	25	25	25	25	25	25	25	25	25
Mesh[T]Chain	28	25	28	28	28	29	28	25	25	25	25	28
Mesh[T][S]	25	25	25	25	25	25	25	25	25	25	25	25
Mesh[T][S][FP]	25	25	25	25	25	25	25	25	25	25	25	25
Mesh[T][S]Sparse	25	25	25	25	25	25	25	25	25	25	25	25
Step[T]Alt	21	25	25	25	25	25	25	25	25	25	25	25
Step[T][S]	25	25	25	25	25	25	25	25	25	25	25	25
[T]Alt	25	25	25	25	25	25	25	25	25	25	25	25
[T][S]	25	25	25	25	25	25	25	25	25	25	25	25
[T][S][FP]	25	25	25	25	25	25	25	25	25	25	25	25
[T][S][HP]	25	25	25	25	25	25	25	25	25	25	25	25
[T][S][HP]Async	25	25	25	25	25	25	25	25	25	25	25	25
[T][S][L]	25	25	25	25	25	25	25	25	25	25	25	25
[T][S][L]Cache	25	25	25	25	25	25	25	25	25	25	25	25
[T][S]Sparse	25	25	25	25	25	25	25	25	25	25	25	25
sgd	27	22	26	25	27	27	26	22	18	20	22	26
step_sgd	26	23	25	24	26	27	28	21	13	21	21	24
step_tween	25	25	25	25	25	25	25	25	24	25	24	25
step_tween_chain	28	25	28	29	28	30	29	25	24	25	25	28
tween	24	25	24	23	24	25	25	24	20	24	24	23
tween_chain	29	24	28	30	30	30	30	25	24	25	25	29

Honesty - mean SoftAcc, every mode x dtype (cols 13-24)

Honesty - mean SoftAcc, every mode x dtype (cols 13-24)

	int16	int2	int3	int32	int4	int5	int6	int64	int8	nf4	ternary	uint
MeshBP	26	25	25	26	25	25	25	29	26	25	25	26
Mesh[T]	25	25	25	25	25	25	25	25	25	25	25	25
Mesh[T]Alt	25	25	25	25	25	25	25	25	25	25	25	25
Mesh[T]Chain	26	25	25	26	25	25	25	28	26	25	25	26
Mesh[T][S]	25	25	25	25	25	25	25	25	25	25	25	25
Mesh[T][S][FP]	25	25	25	25	25	25	25	25	25	25	25	25
Mesh[T][S]Sparse	25	25	25	25	25	25	25	25	25	25	25	25
Step[T]Alt	25	25	25	25	25	25	25	25	25	25	25	25
Step[T][S]	25	25	25	25	25	25	25	25	25	25	25	25
[T]Alt	25	25	25	25	25	25	25	25	25	25	25	25
[T][S]	25	25	25	25	25	25	21	25	25	25	25	25
[T][S][FP]	25	25	25	25	25	25	25	25	25	25	25	25
[T][S][HP]	25	25	25	25	25	25	25	25	25	25	25	25
[T][S][HP]Async	25	25	25	25	25	25	25	25	25	25	25	25
[T][S][L]	25	25	25	25	25	25	25	25	25	25	25	25
[T][S][L]Cache	25	25	25	25	25	25	25	25	25	25	25	25
[T][S]Sparse	25	25	25	25	25	25	25	25	25	25	25	25
sgd	23	22	18	22	22	17	16	26	23	20	23	24
step_sgd	21	23	15	24	22	13	14	26	24	19	23	19
step_tween	25	25	25	25	25	24	22	25	25	25	24	25
step_tween_chain	26	25	25	26	25	25	26	29	26	25	25	26
tween	23	25	23	25	24	22	21	24	25	24	24	25
tween_chain	25	25	24	25	25	24	24	30	26	23	25	26

Honesty - mean SoftAcc, every mode x dtype (cols 25-34)

Honesty - mean SoftAcc, every mode x dtype (cols 25-34)

	uint16	uint2	uint3	uint32	uint4	uint5	uint6	uint64	uint8	uintptr
MeshBP	26	25	25	26	25	25	25	26	26	26
Mesh[T]	25	25	25	25	25	25	25	25	25	25
Mesh[T]Alt	25	25	25	25	25	25	25	25	25	25
Mesh[T]Chain	26	25	25	26	25	25	25	26	26	26
Mesh[T][S]	25	25	25	25	25	25	25	25	25	25
Mesh[T][S][FP]	25	25	25	25	25	25	25	25	25	25
Mesh[T][S]Sparse	25	25	25	25	25	25	25	25	25	25
Step[T]Alt	25	25	25	25	25	25	25	25	25	25
Step[T][S]	25	25	25	25	25	25	25	25	25	25
[T]Alt	25	25	25	25	25	25	25	25	25	25
[T][S]	25	25	25	25	25	25	25	25	25	25
[T][S][FP]	25	25	25	25	25	25	25	25	25	25
[T][S][HP]	25	25	25	25	25	25	25	25	25	25
[T][S][HP]Async	25	25	25	25	25	25	25	25	25	25
[T][S][L]	25	25	25	25	25	25	25	25	25	25
[T][S][L]Cache	25	25	25	25	25	25	25	25	25	25
[T][S]Sparse	25	25	25	25	25	25	25	25	25	25
sgd	23	23	19	23	22	17	17	23	25	24
step_sgd	24	20	16	21	20	15	14	21	24	20
step_tween	25	25	25	25	25	25	25	25	25	25
step_tween_chain	26	25	25	26	25	25	25	26	26	24
tween	25	24	24	24	24	21	21	24	24	24
tween_chain	26	25	24	26	25	24	25	26	26	25

Honesty - mean Avail, every mode x dtype (cols 1-12)

Honesty - mean Avail, every mode x dtype (cols 1-12)

	bfloat16	binary	complex128	complex64	float16	float32	float64	fp4	fp6	fp8e4m3	fp8e5m2	int
MeshBP	25	23	23	26	27	25	23	23	24	24	26	25
Mesh[T]	21	19	23	22	24	24	23	19	22	23	22	22
Mesh[T]Alt	18	18	17	18	17	19	20	15	19	18	18	19
Mesh[T]Chain	25	21	22	23	23	24	22	22	27	22	24	27
Mesh[T][S]	33	28	34	34	35	29	32	29	36	32	33	34
Mesh[T][S][FP]	28	28	33	34	35	30	33	31	35	33	34	33
Mesh[T][S]Sparse	36	39	35	37	38	39	39	37	39	36	36	37
Step[T]Alt	13	14	14	17	16	16	16	13	14	14	15	15
Step[T][S]	23	26	25	25	25	24	22	26	23	30	24	26
[T]Alt	18	15	17	21	15	22	21	12	17	18	17	19
[T][S]	31	27	31	31	31	29	31	26	33	33	28	33
[T][S][FP]	34	32	36	36	37	36	37	35	37	36	36	36
[T][S][HP]	30	26	32	32	31	28	31	29	31	30	31	31
[T][S][HP]Async	33	30	34	32	31	31	34	31	34	33	33	34
[T][S][L]	28	22	26	30	29	25	26	27	28	29	28	27
[T][S][L]Cache	33	30	34	34	35	32	32	33	37	33	33	36
[T][S]Sparse	37	38	36	35	37	41	38	35	36	38	37	35
sgd	26	24	24	24	26	29	29	24	28	24	26	27
step_sgd	23	20	23	21	22	25	22	18	19	22	21	23
step_tween	22	16	22	19	21	18	23	21	19	19	19	23
step_tween_chain	20	18	22	22	21	21	22	18	17	21	21	20
tween	23	21	25	24	25	27	25	23	23	25	24	25
tween_chain	24	22	25	27	30	28	27	22	25	23	29	25

Honesty - mean Avail, every mode x dtype (cols 13-24)

Honesty - mean Avail, every mode x dtype (cols 13-24)

	int16	int2	int3	int32	int4	int5	int6	int64	int8	nf4	ternary	uint
MeshBP	25	23	25	27	20	24	27	25	26	22	21	23
Mesh[T]	22	18	22	23	23	22	22	23	22	21	21	26
Mesh[T]Alt	19	16	18	20	16	19	18	20	18	17	16	17
Mesh[T]Chain	24	20	25	23	21	21	25	24	26	27	20	24
Mesh[T][S]	36	28	34	32	28	36	36	34	27	34	28	34
Mesh[T][S][FP]	32	30	36	33	30	37	36	34	31	33	29	34
Mesh[T][S]Sparse	37	36	41	39	39	38	38	38	40	36	37	36
Step[T]Alt	16	12	15	15	14	14	13	16	19	16	14	16
Step[T][S]	25	21	22	27	23	23	24	26	25	24	22	22
[T]Alt	19	19	16	21	13	18	17	20	21	17	13	16
[T][S]	34	28	32	33	27	31	35	31	28	31	27	34
[T][S][FP]	36	33	38	36	31	38	37	36	33	34	31	36
[T][S][HP]	30	29	31	31	28	33	32	31	26	33	28	34
[T][S][HP]Async	35	31	35	32	29	33	35	33	30	32	29	33
[T][S][L]	27	18	29	30	19	31	30	28	24	23	20	27
[T][S][L]Cache	34	30	34	32	30	36	36	34	30	31	32	34
[T][S]Sparse	36	39	38	37	39	37	38	37	38	36	38	36
sgd	26	24	26	26	26	27	25	25	27	26	25	28
step_sgd	22	21	21	25	21	21	18	22	22	22	21	23
step_tween	20	21	21	21	25	20	16	18	19	19	13	21
step_tween_chain	22	18	18	25	19	19	21	23	24	18	20	20
tween	24	24	23	23	23	23	22	26	26	25	25	26
tween_chain	26	24	25	24	21	24	24	24	23	23	19	25

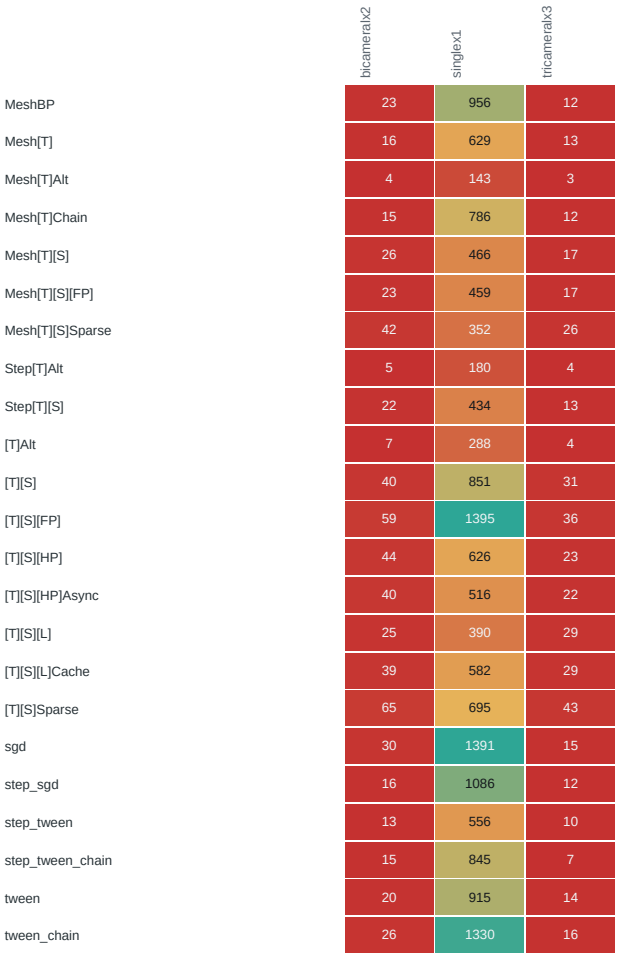
Honesty - mean Avail, every mode x dtype (cols 25-34)

Honesty - mean Avail, every mode x dtype (cols 25-34)

	uint16	uint2	uint3	uint32	uint4	uint5	uint6	uint64	uint8	uintptr
MeshBP	20	27	25	24	23	27	26	22	24	22
Mesh[T]	24	23	24	22	24	23	23	26	24	22
Mesh[T]Alt	20	20	19	19	18	21	17	19	20	19
Mesh[T]Chain	24	23	24	23	22	24	23	26	26	24
Mesh[T][S]	35	34	35	34	33	37	38	35	31	34
Mesh[T][S][FP]	35	34	35	35	33	34	36	33	31	35
Mesh[T][S]Sparse	37	37	38	34	37	40	38	36	38	36
Step[T]Alt	16	16	16	18	19	13	12	15	16	14
Step[T][S]	27	25	23	25	25	25	24	25	26	27
[T]Alt	16	16	16	17	17	17	20	17	19	18
[T][S]	32	31	33	32	32	34	32	31	31	32
[T][S][FP]	36	36	37	36	37	37	38	35	34	36
[T][S][HP]	31	32	33	29	31	33	33	33	29	30
[T][S][HP]Async	33	35	36	33	33	36	35	32	29	35
[T][S][L]	29	30	33	29	28	30	31	30	26	28
[T][S][L]Cache	35	34	35	35	35	35	35	35	31	34
[T][S]Sparse	37	36	36	34	37	38	37	37	36	37
sgd	27	28	27	25	27	26	27	27	28	30
step_sgd	23	22	22	23	22	20	19	22	23	21
step_tween	18	21	18	20	20	19	19	20	18	20
step_tween_chain	22	20	20	19	20	19	19	19	22	19
tween	26	26	22	27	24	21	23	25	22	24
tween_chain	24	24	27	25	20	25	28	27	25	23

Mean Score, every mode x arch

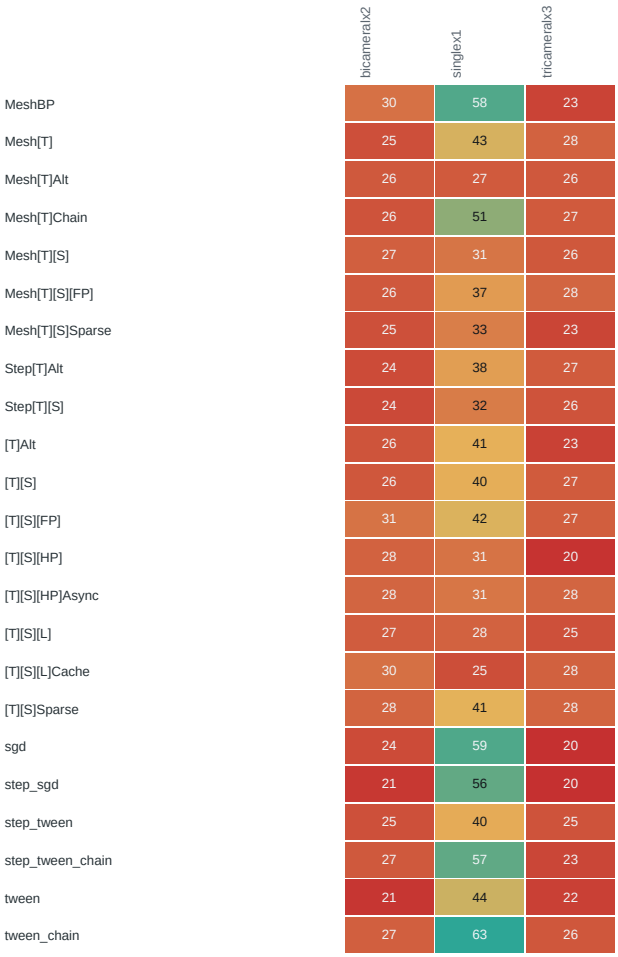
Mean Score, every mode x arch



	bicameralx2	singlex1	tricameralx3
MeshBP	23	956	12
Mesh[T]	16	629	13
Mesh[T]Alt	4	143	3
Mesh[T]Chain	15	786	12
Mesh[T][S]	26	466	17
Mesh[T][S][FP]	23	459	17
Mesh[T][S]Sparse	42	352	26
Step[T]Alt	5	180	4
Step[T][S]	22	434	13
[T]Alt	7	288	4
[T][S]	40	851	31
[T][S][FP]	59	1395	36
[T][S][HP]	44	626	23
[T][S][HP]Async	40	516	22
[T][S][L]	25	390	29
[T][S][L]Cache	39	582	29
[T][S]Sparse	65	695	43
sgd	30	1391	15
step_sgd	16	1086	12
step_tween	13	556	10
step_tween_chain	15	845	7
tween	20	915	14
tween_chain	26	1330	16

Mean hard Acc, every mode x arch

Mean hard Acc, every mode x arch



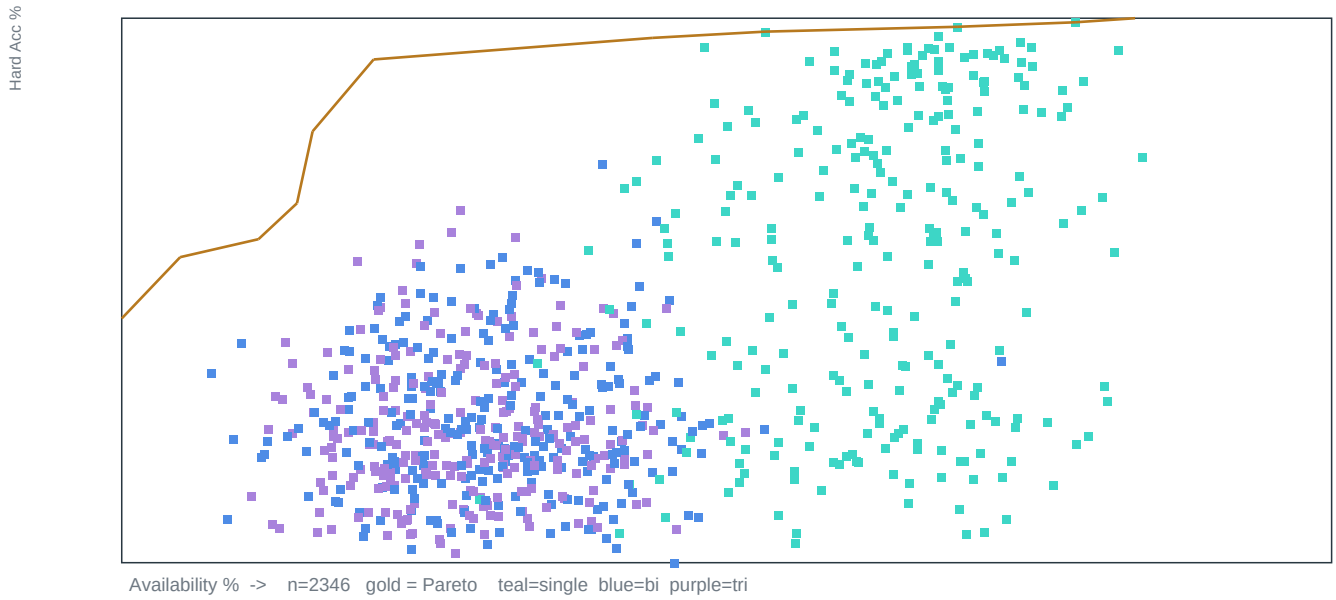
	bicameralx2	singlex1	tricameralx3
MeshBP	30	58	23
Mesh[T]	25	43	28
Mesh[T]Alt	26	27	26
Mesh[T]Chain	26	51	27
Mesh[T][S]	27	31	26
Mesh[T][S][FP]	26	37	28
Mesh[T][S]Sparse	25	33	23
Step[T]Alt	24	38	27
Step[T][S]	24	32	26
[T]Alt	26	41	23
[T][S]	26	40	27
[T][S][FP]	31	42	27
[T][S][HP]	28	31	20
[T][S][HP]Async	28	31	28
[T][S][L]	27	28	25
[T][S][L]Cache	30	25	28
[T][S]Sparse	28	41	28
sgd	24	59	20
step_sgd	21	56	20
step_tween	25	40	25
step_tween_chain	27	57	23
tween	21	44	22
tween_chain	27	63	26

Mean Avail, every mode x arch

Mean Avail, every mode x arch

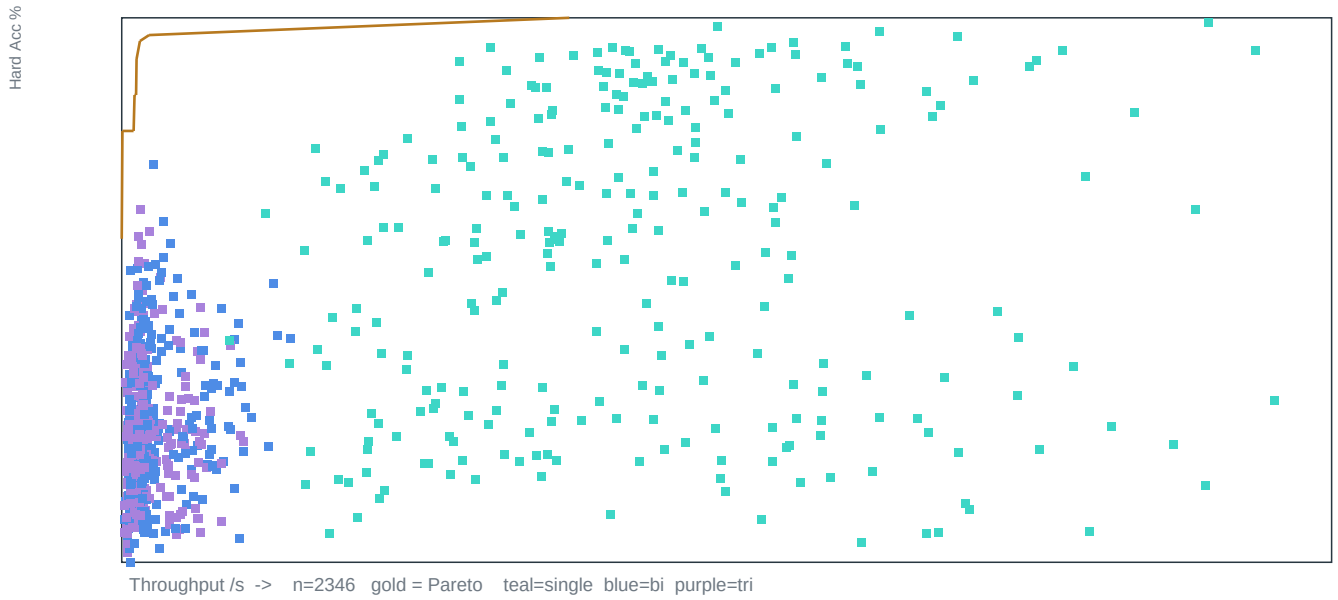
	bicamerax2	singlex1	tricamerax3
MeshBP	20	33	19
Mesh[T]	19	31	18
Mesh[T]Alt	14	26	15
Mesh[T]Chain	19	33	19
Mesh[T][S]	30	40	29
Mesh[T][S][FP]	29	40	29
Mesh[T][S]Sparse	37	40	36
Step[T]Alt	12	22	11
Step[T][S]	21	32	21
[T]Alt	14	25	14
[T][S]	27	38	28
[T][S][FP]	33	44	30
[T][S][HP]	28	36	28
[T][S][HP]Async	30	39	29
[T][S][L]	24	32	26
[T][S][L]Cache	29	41	30
[T][S]Sparse	36	39	36
sgd	22	35	21
step_sgd	17	33	15
step_tween	16	28	16
step_tween_chain	16	30	15
tween	20	33	19
tween_chain	20	34	19

Pillars - Availability vs hard Acc

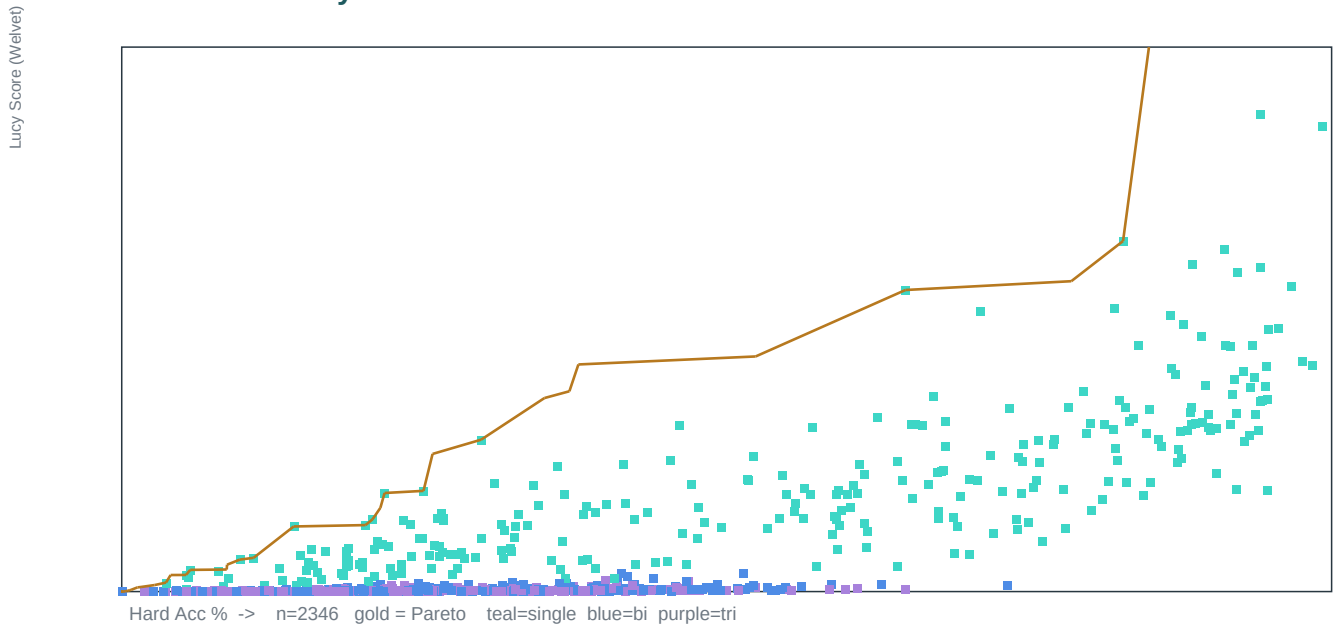


Pillars - Throughput vs hard Acc

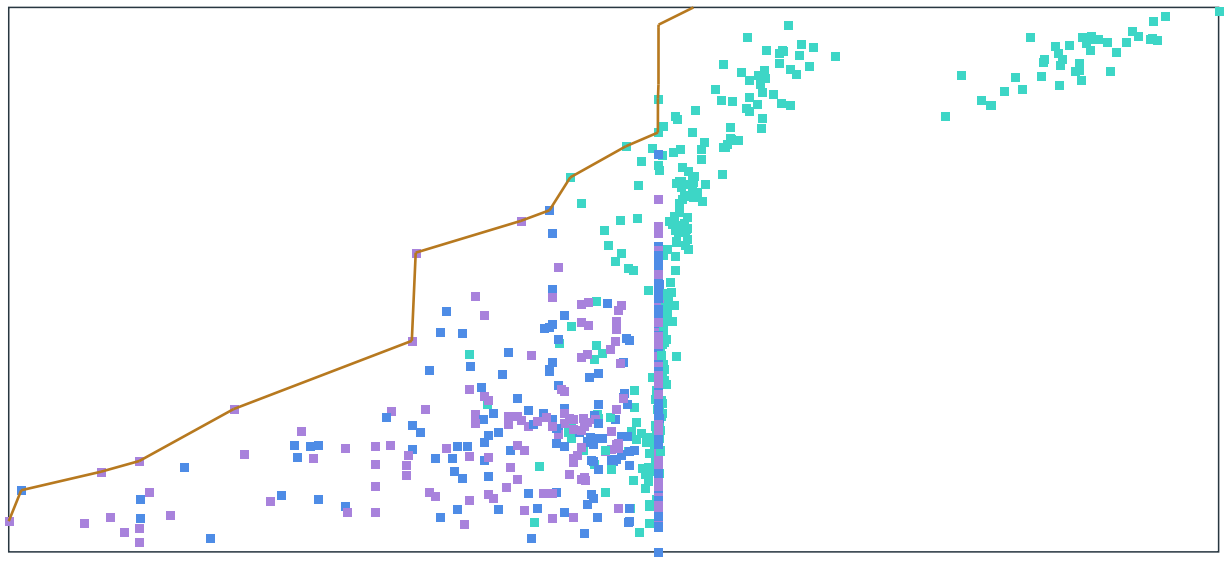
Pillars - Throughput vs hard Acc



Pareto - hard Acc vs Lucy Score

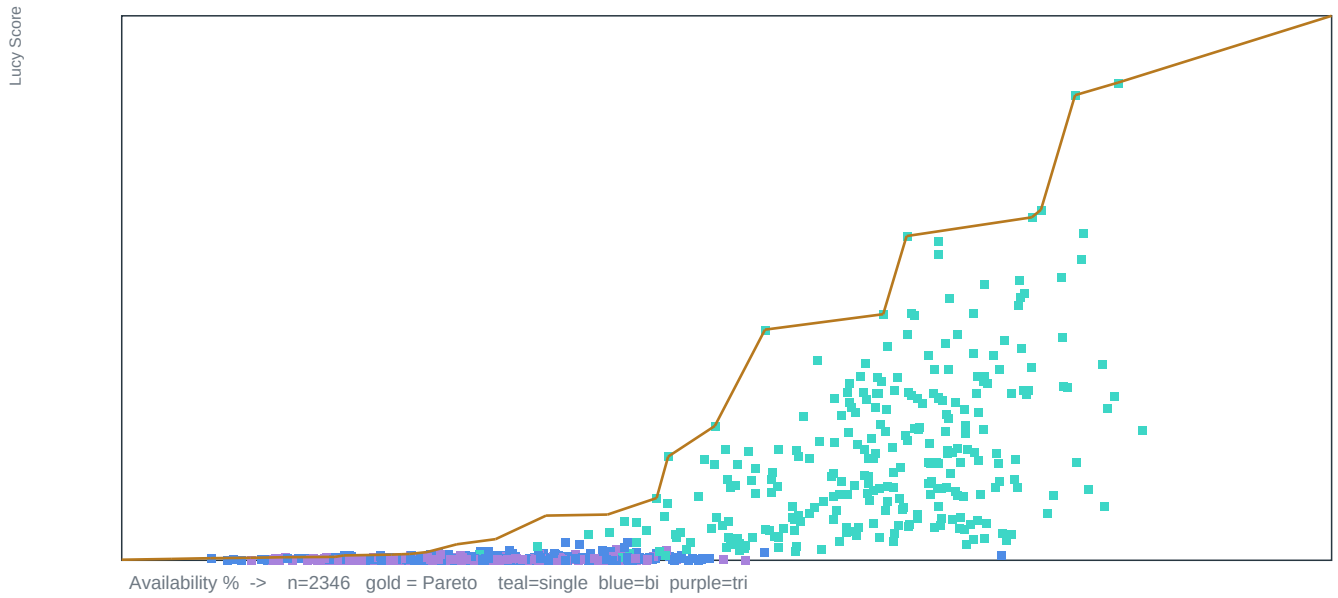


SoftAcc (serve-confidence) vs hard Acc

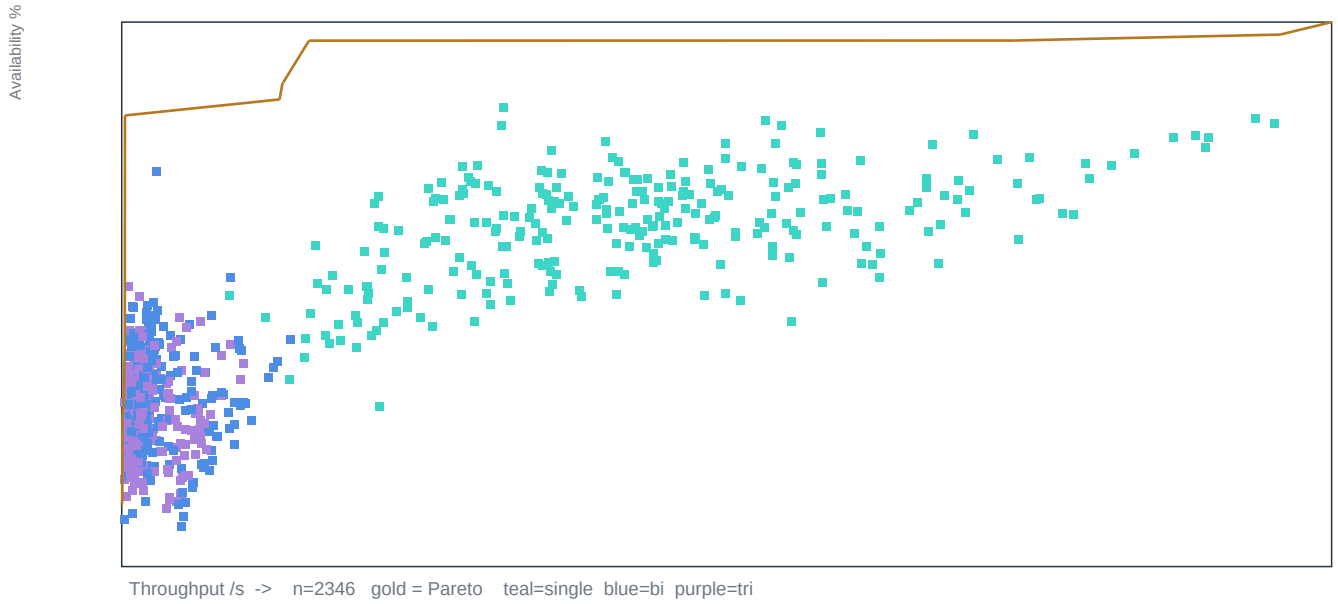



SoftAcc % -> n=2346 gold = Pareto teal=single blue=bi purple=tri
Hard Acc %

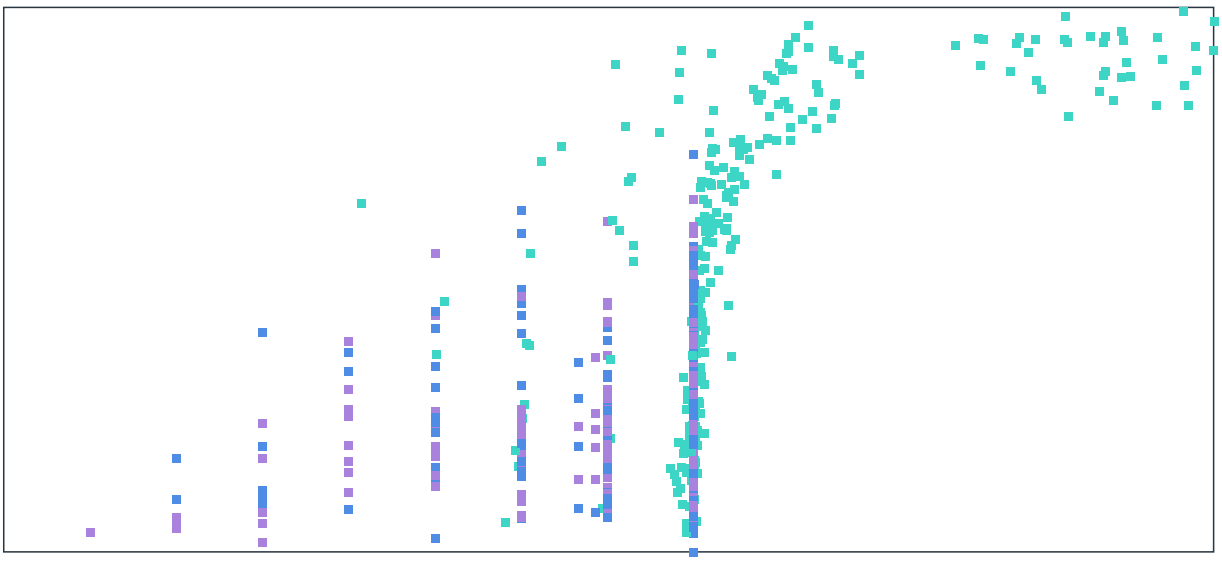
Avail vs Lucy Score (duty clock)



Pillars - Throughput vs Availability



AdaptPct vs hard Acc



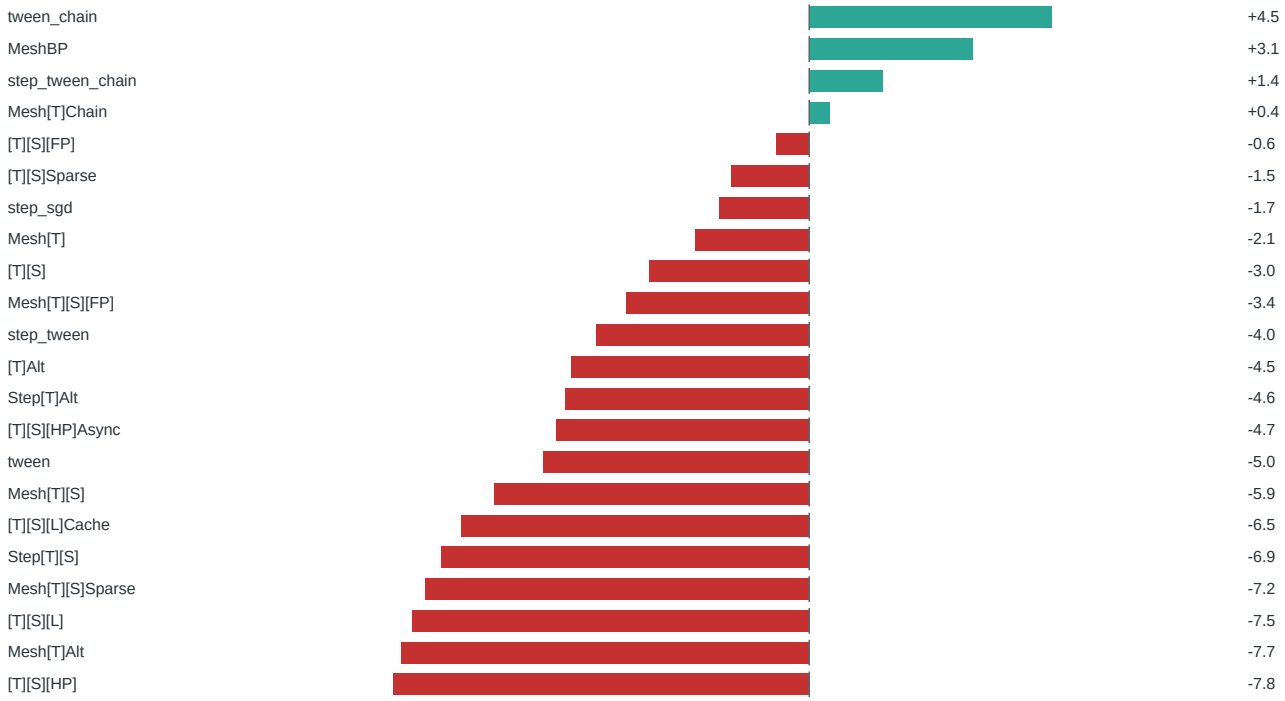

AdaptPct % -> n=2346 gold = Pareto teal=single blue=bi purple=tri
Hard Acc %

vs sgd - matched dtype x format x arch

AccDelta is the honest column. ScoreDelta is usually Availability (duty clock), not a better chain rule. Acc win = AccDelta > 0.5. Score win = ScoreDelta > 1. Baseline is discovered from the board, not a frozen StepBP list.

mode	n	AccD	Acc win%	SoftD	AvailD	ThruD	ScoreD	Score win%
tween_chain	102	+4.5	68	+3.5	-1.6	-244	-21.5	42
MeshBP	102	+3.1	58	+3.8	-2.0	-585	-148.4	34
step_tween_chain	102	+1.4	50	+3.6	-5.9	-742	-189.6	14
Mesh[T]Chain	102	+0.4	46	+3.6	-2.7	-753	-207.9	19
[T][S][FP]	102	-0.6	47	+2.7	+9.4	+308	+18.3	64
[T][S]Sparse	102	-1.5	48	+2.7	+10.8	-821	-210.7	48
step_sgd	102	-1.7	40	-1.3	-4.6	-377	-107.6	21
Mesh[T]	102	-2.1	49	+2.7	-3.6	-797	-259.4	25
[T][S]	102	-3.0	49	+2.6	+4.8	-274	-171.4	56
Mesh[T][S][FP]	102	-3.4	46	+2.7	+6.7	-1343	-312.1	36
step_tween	102	-4.0	44	+2.5	-6.4	-824	-285.7	18
[T]Alt	102	-4.5	46	+2.7	-8.7	-1534	-379.1	6
Step[T]Alt	102	-4.6	47	+2.6	-11.1	-1739	-415.8	2
[T][S][HP]Async	102	-4.7	45	+2.6	+6.5	-751	-285.7	48
tween	102	-5.0	47	+1.3	-2.1	-281	-162.3	31
Mesh[T][S]	102	-5.9	40	+2.6	+6.8	-1047	-309.0	36
[T][S][L]Cache	102	-6.5	46	+2.6	+7.3	-407	-262.1	55
Step[T][S]	102	-6.9	41	+2.6	-1.6	-913	-322.1	26
Mesh[T][S]Sparse	102	-7.2	44	+2.6	+11.2	-1377	-338.7	45
[T][S][L]	102	-7.5	42	+2.6	+1.1	-792	-330.8	45
Mesh[T]Alt	102	-7.7	48	+2.6	-7.9	-1758	-428.8	1
[T][S][HP]	102	-7.8	41	+2.6	+4.5	-234	-247.6	51

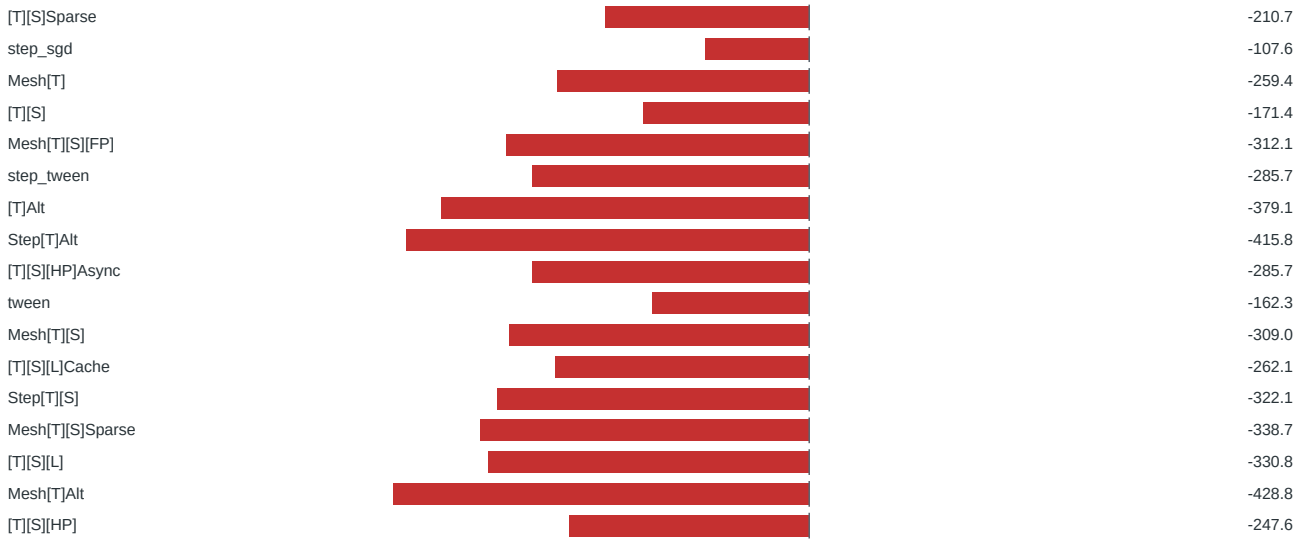
mean AccD vs sgd



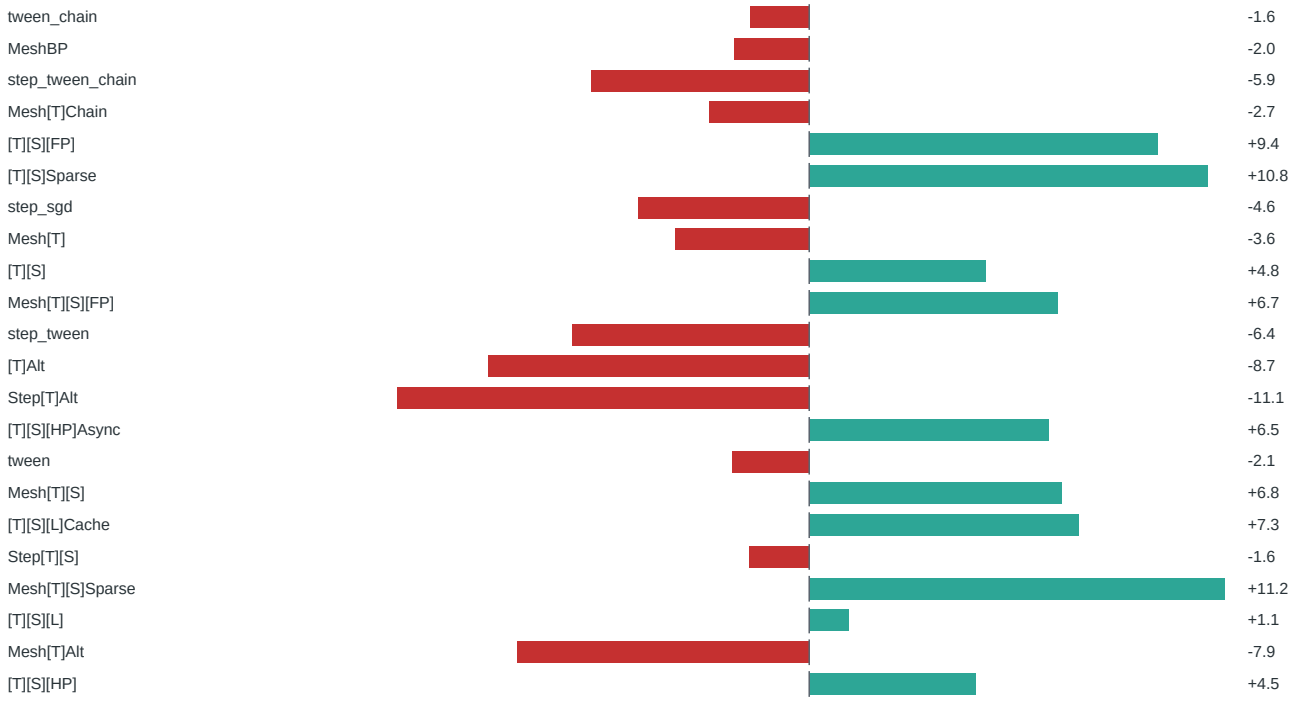
mean ScoreD vs sgd (duty clock)



mean ScoreD vs sgd (duty clock)



mean AvailD vs sgd



AccD vs sgd, every mode x dtype (cols 1-12)

AccD vs sgd, every mode x dtype (cols 1-12)

	bfloat16	binary	complex128	complex64	float16	float32	float64	fp4	fp6	fp8e4m3	fp8e5m2	int
MeshBP	-5	+21	+10	+2	+7	-5	+14	+1	-3	+3	+4	-3
Mesh[T]	-14	+11	-8	-11	-3	-27	-8	+4	+1	-28	+10	+5
Mesh[T]Alt	-40	-1	-17	-13	-15	-34	-11	-2	-2	-46	+7	-34
Mesh[T]Chain	-9	+11	+5	+1	+13	-3	+7	+3	-11	-6	+3	+5
Mesh[T][S]	-43	+15	-10	-26	+14	-18	-3	+0	-14	-11	-13	-8
Mesh[T][S][FP]	-17	+4	-13	-12	-3	-28	+13	+8	-11	+0	+16	-8
Mesh[T][S]Sparse	-42	+12	-12	-7	-10	-16	+6	+3	-31	-21	-7	-28
Step[T]Alt	-49	+10	-13	-27	+2	-17	-6	+6	+1	-22	+13	-9
Step[T][S]	-40	+16	-14	-19	-5	-27	+5	+5	-10	-23	-2	-15
[T]Alt	-30	+8	+6	-18	+5	-4	+4	+2	-21	-33	+3	-6
[T][S]	-36	+12	-10	-18	+3	-12	+6	+1	-10	-29	+6	-5
[T][S][FP]	-34	+14	-24	-0	-8	-4	+5	+1	-29	-4	+8	+3
[T][S][HP]	-35	+14	-24	-43	-11	-18	-11	+8	-19	+3	-12	-12
[T][S][HP]Async	-5	+15	+10	-34	+2	-17	+0	+2	-24	-10	-3	-10
[T][S][L]	-46	+14	-19	-19	-15	-13	+1	-1	-31	+1	-10	-11
[T][S][L]Cache	-11	+5	-1	-34	+9	-30	-17	+5	-16	-7	+6	-25
[T][S]Sparse	-28	+16	-9	+1	+24	+5	+9	+2	-13	-47	-4	+16
step_sgd	-2	+3	+2	-1	+6	+6	+12	-1	-11	-5	+1	+4
step_tween	-24	-1	-11	+0	+2	-22	+8	+1	-22	-21	-2	+6
step_tween_chain	-6	+4	+5	-8	+11	+4	+6	+2	-9	-8	+7	-0
tween	-34	+5	-3	-16	-2	-15	+8	+3	-19	-24	+7	-12
tween_chain	-2	+16	+6	-2	+13	+10	+13	+2	-4	-4	+10	+11

AccD vs sgd, every mode x dtype (cols 13-24)

AccD vs sgd, every mode x dtype (cols 13-24)

	int16	int2	int3	int32	int4	int5	int6	int64	int8	nf4	ternary	uint
MeshBP	+7	-11	+0	+5	-11	+25	+19	+10	+0	+18	-5	-22
Mesh[T]	-4	-19	+30	-3	+10	+0	+7	-2	+3	-2	+5	-18
Mesh[T]Alt	+3	-6	+10	-10	-3	+12	+11	-9	-28	+8	-8	-13
Mesh[T]Chain	+3	-23	-3	+18	-12	+9	+21	+4	-9	+23	-2	-14
Mesh[T][S]	-18	-5	+10	-13	-2	+4	+2	+5	-17	+32	-13	-38
Mesh[T][S][FP]	-7	+15	-2	-1	-1	-4	-6	+7	-3	+5	-11	-35
Mesh[T][S]Sparse	-9	-5	+19	-17	-3	+14	-5	+1	-11	+7	+0	-29
Step[T]Alt	-8	-3	+5	-9	+6	+1	+2	-4	-4	+18	+15	-11
Step[T][S]	-21	-2	+16	-5	+3	-1	+1	-7	-2	+9	-4	-35
[T]Alt	-15	-15	+11	+2	-3	+8	+6	-3	-8	+1	+2	-34
[T][S]	-0	-9	+28	+11	+3	+12	+7	+17	-17	-8	+3	-20
[T][S][FP]	-22	-11	+23	-7	+4	+10	+15	+13	-20	+4	+9	-3
[T][S][HP]	-22	-28	+41	+11	-1	+6	+7	-23	-17	+6	-1	-10
[T][S][HP]Async	-16	-14	+23	-11	-10	+19	+20	+10	-19	+8	-15	-26
[T][S][L]	-11	-7	-8	-6	-15	+20	+1	-24	-8	+18	+18	-24
[T][S][L]Cache	+1	-8	+15	+14	+0	-8	+15	-3	-1	+1	-4	-36
[T][S]Sparse	-13	+7	-5	-3	+2	+8	+10	-21	-10	+27	+9	-19
step_sgd	-7	-6	-3	+13	-4	-10	+9	+12	-2	-2	+6	-20
step_tween	-1	-12	+5	+11	-1	-6	-3	-3	+2	+12	-1	-8
step_tween_chain	+1	-14	+2	+2	-8	+18	+19	+2	-4	+11	-8	+1
tween	-14	-14	+8	-4	-6	+2	-3	-2	-3	+20	+1	-8
tween_chain	+0	-16	-1	+19	+9	+6	+18	+12	+4	+16	-1	-17

AccD vs sgd, every mode x dtype (cols 25-34)

AccD vs sgd, every mode x dtype (cols 25-34)

	uint16	uint2	uint3	uint32	uint4	uint5	uint6	uint64	uint8	uintptr
MeshBP	+18	+2	+9	+0	+3	-0	-3	+5	-10	-2
Mesh[T]	-12	+7	+1	+7	+14	-2	-5	-7	-4	-9
Mesh[T]Alt	-13	+22	+8	-16	+33	+6	-16	-22	-17	-4
Mesh[T]Chain	+5	-6	+5	-7	+7	-5	+3	-7	-6	-10
Mesh[T][S]	+8	+12	-6	-11	+2	+18	-4	-28	-21	-2
Mesh[T][S][FP]	-7	+17	+9	-21	+17	+0	-1	-11	-23	-3
Mesh[T][S]Sparse	+7	+3	+15	-23	+23	-11	-6	-17	-24	-22
Step[T]Alt	-2	-2	-7	-24	+2	+0	-16	-2	-2	+1
Step[T][S]	-3	+7	-0	-6	+4	+3	+5	-23	-26	-20
[T]Alt	-4	+19	+3	-9	+3	+8	+2	-13	-8	-21
[T][S]	-13	+6	+15	-9	+14	-3	-13	-8	-9	-16
[T][S][FP]	-3	+14	+22	+1	+0	+31	-13	+10	-21	-7
[T][S][HP]	-5	+18	-6	-26	-16	+1	-1	-27	+5	-17
[T][S][HP]Async	-14	-2	+6	-22	+8	-4	+6	-5	-9	-22
[T][S][L]	+3	+5	+18	-23	+15	-6	-14	-18	-35	-5
[T][S][L]Cache	-9	+12	+1	-34	-6	+18	+4	-34	-11	-34
[T][S]Sparse	-25	+7	+3	+0	+31	-3	+34	-24	-10	-26
step_sgd	-2	+0	-7	-3	+1	-10	-11	-10	-9	-8
step_tween	-4	+9	+4	-19	+10	+2	-12	-26	-5	-5
step_tween_chain	-4	+12	+10	-3	+9	+1	+11	-15	+3	-5
tween	+3	+10	-4	-15	+3	-1	-19	-8	-6	-6
tween_chain	+7	+3	-1	-1	+12	+13	+4	+0	-7	+5

ScoreD vs sgd, every mode x dtype (cols 1-12)

ScoreD vs sgd, every mode x dtype (cols 1-12)

	bfloat16	binary	complex128	complex64	float16	float32	float64	fp4	fp6	fp8e4m3	fp8e5m2	int
MeshBP	-262	-54	-257	-59	-183	-487	-383	+11	-153	+29	+41	-166
Mesh[T]	-422	-104	-349	-377	-368	-1090	-565	-74	-256	-15	-73	-326
Mesh[T]Alt	-703	-209	-562	-425	-626	-1288	-716	-167	-314	-179	-232	-534
Mesh[T]Chain	-335	-86	-295	-201	-384	-543	-435	-20	-136	-57	-142	-183
Mesh[T][S]	-448	+187	-386	-358	-432	-1167	-584	-48	-185	-36	-258	-457
Mesh[T][S][FP]	-558	-147	-466	-359	-444	-1190	-615	-52	-279	+50	+49	-373
Mesh[T][S]Sparse	-620	+7	-450	-337	-564	-1352	-554	-74	-328	-57	-258	-502
Step[T]Alt	-720	-183	-530	-462	-589	-1379	-716	-160	-319	-139	-204	-505
Step[T][S]	-612	-14	-391	-332	-380	-1246	-567	-57	-247	-62	-220	-387
[T]Alt	-643	-78	-472	-388	-541	-1201	-598	-170	-317	-159	-178	-481
[T][S]	-270	-54	-232	-275	-322	-874	-433	+82	-266	+103	-145	-282
[T][S][FP]	-215	+265	-420	+27	-215	+208	+418	+189	-233	+341	+219	-26
[T][S][HP]	-513	+6	-412	-501	-555	-862	-388	+35	-197	+67	-267	-254
[T][S][HP]Async	-305	+208	-359	-328	-436	-1185	-557	-12	-250	-86	-58	-408
[T][S][L]	-516	-95	-434	-419	-457	-998	-600	-57	-314	-27	-143	-444
[T][S][L]Cache	-119	+300	-227	-354	-202	-1212	-670	+68	-257	-121	+60	-516
[T][S]Sparse	-305	+73	-515	-371	-31	-428	-290	-27	-204	-168	-70	-278
step_sgd	-77	-149	-1	-25	+62	-473	-232	-51	-253	+235	-38	-84
step_tween	-261	-136	-352	-322	-312	-1172	-325	+8	-308	-130	-187	-386
step_tween_chain	-283	-52	-172	-161	-123	-761	-219	-93	-253	+59	-92	-312
tween	-218	+1	-230	-220	-265	-558	-316	+10	-291	-36	-24	-163
tween_chain	+37	+187	-32	+68	-18	-23	-25	+29	-120	+91	+203	-19

ScoreD vs sgd, every mode x dtype (cols 13-24)

ScoreD vs sgd, every mode x dtype (cols 13-24)

	int16	int2	int3	int32	int4	int5	int6	int64	int8	nf4	ternary	uint
MeshBP	-181	-178	+10	-194	-374	+73	+9	-84	-270	-1	-197	-434
Mesh[T]	-365	-393	-22	-185	-123	-43	-155	-347	-556	-2	-70	-331
Mesh[T]Alt	-572	-463	-85	-448	-469	-83	-189	-481	-1044	-59	-247	-591
Mesh[T]Chain	-299	-459	-66	-268	-370	-64	-45	-221	-349	+106	-124	-412
Mesh[T][S]	-507	-132	-48	-414	-266	-97	-101	-417	-791	+125	-240	-464
Mesh[T][S][FP]	-400	-161	-86	-410	-399	-47	-173	-217	-617	+6	-251	-550
Mesh[T][S]Sparse	-498	-417	-27	-412	-285	-54	-125	-362	-789	-32	+29	-425
Step[T]Alt	-571	-485	-93	-447	-378	-85	-173	-481	-970	-34	-191	-554
Step[T][S]	-480	-331	-72	-317	-340	-46	-132	-371	-639	-50	-181	-561
[T]Alt	-596	-418	-89	-364	-346	-58	-170	-432	-870	-67	-189	-556
[T][S]	-304	-197	+113	-45	-3	+35	-36	+47	-779	-35	+159	-341
[T][S][FP]	-498	+93	+157	-159	+179	+69	-30	+18	-391	+304	+406	+144
[T][S][HP]	-631	-505	+231	-26	-163	-28	-35	-463	-678	-35	+8	-209
[T][S][HP]Async	-536	-457	+199	-319	-374	+69	-110	-338	-688	-48	-267	-492
[T][S][L]	-528	-322	-104	-288	-463	+42	-177	-527	-1015	+121	+62	-474
[T][S][L]Cache	-506	-213	+64	-183	-379	-95	-35	-107	-414	-56	+68	-607
[T][S]Sparse	-561	-62	-96	-207	-80	-3	-148	-429	-530	+22	+155	-342
step_sgd	-219	-290	-55	-21	-356	-76	-74	-53	-339	+22	+85	-118
step_tween	-485	-250	-80	-191	-390	-94	-149	-309	-530	-12	-290	-369
step_tween_chain	-322	-372	-62	-116	-269	-25	-39	-124	-231	+7	-190	-292
tween	-279	-422	-15	-71	-148	-52	-140	-208	-222	+215	-80	-265
tween_chain	-138	-207	-34	+2	-111	-9	+27	-57	-155	+157	-270	-236

ScoreD vs sgd, every mode x dtype (cols 25-34)

ScoreD vs sgd, every mode x dtype (cols 25-34)

	uint16	uint2	uint3	uint32	uint4	uint5	uint6	uint64	uint8	uintptr
MeshBP	-327	+96	+10	+70	-77	-86	-84	-327	-239	-338
Mesh[T]	-331	+45	+3	-181	-68	-138	-209	-442	-444	-446
Mesh[T]Alt	-549	-33	-80	-410	-109	-181	-296	-740	-909	-586
Mesh[T]Chain	-275	+20	+48	-164	-74	-113	-163	-378	-312	-270
Mesh[T][S]	-415	-12	-83	-261	-27	-107	-11	-606	-877	-584
Mesh[T][S][FP]	-493	+34	-62	-289	-73	-139	-228	-530	-749	-394
Mesh[T][S]Sparse	-394	-52	+33	-352	-23	-205	-210	-597	-730	-499
Step[T]Alt	-486	-37	-92	-417	-130	-198	-289	-715	-823	-580
Step[T][S]	-378	+24	-45	-218	-49	-140	-239	-694	-733	-444
[T]Alt	-520	-31	-60	-338	-96	-194	-264	-652	-811	-540
[T][S]	-327	+226	+78	-127	+158	-40	-211	-406	-527	-296
[T][S][FP]	-89	+296	+182	+19	-121	-81	+20	-9	-270	-177
[T][S][HP]	-347	+177	+38	-282	-143	-6	+3	-494	-602	-388
[T][S][HP]Async	-535	+67	+29	-293	+39	-81	-142	-568	-619	-475
[T][S][L]	-479	+46	+97	-289	-100	-157	-206	-576	-917	-492
[T][S][L]Cache	-557	-20	-62	-397	+26	+15	-168	-730	-674	-631
[T][S]Sparse	-541	+149	+8	-207	+42	-63	-116	-486	-564	-492
step_sgd	-139	+57	-35	+200	-26	-116	-173	-326	-373	-144
step_tween	-394	+107	-43	-227	-31	-180	-290	-551	-636	-435
step_tween_chain	-170	+52	-1	-141	-89	-169	-186	-484	-394	-366
tween	-107	+198	-28	+117	-59	-153	-253	-405	-561	-272
tween_chain	-114	+128	+43	+67	+73	+35	-4	-114	+50	-243

AvailD vs sgd, every mode x dtype (cols 1-12)

AvailD vs sgd, every mode x dtype (cols 1-12)

	bfloat16	binary	complex128	complex64	float16	float32	float64	fp4	fp6	fp8e4m3	fp8e5m2	int
MeshBP	-1	-1	-1	+1	+0	-4	-5	-1	-4	-1	+1	-3
Mesh[T]	-4	-5	-1	-2	-3	-4	-5	-5	-5	-1	-4	-5
Mesh[T]Alt	-8	-6	-6	-6	-9	-10	-8	-9	-8	-6	-8	-9
Mesh[T]Chain	-1	-2	-1	-2	-4	-4	-6	-3	-1	-3	-2	-1
Mesh[T][S]	+7	+4	+10	+9	+9	+1	+3	+4	+9	+8	+7	+6
Mesh[T][S][FP]	+2	+4	+9	+9	+8	+1	+4	+7	+7	+9	+8	+6
Mesh[T][S]Sparse	+11	+15	+11	+12	+11	+10	+10	+12	+11	+12	+11	+9
Step[T]Alt	-13	-9	-9	-8	-10	-13	-13	-11	-13	-11	-11	-12
Step[T][S]	-2	+2	+1	+1	-1	-4	-6	+1	-5	+6	-2	-1
[T]Alt	-8	-8	-6	-4	-12	-6	-7	-12	-10	-7	-9	-8
[T][S]	+6	+3	+7	+7	+5	+0	+2	+1	+5	+8	+2	+6
[T][S][FP]	+8	+8	+12	+12	+10	+8	+9	+11	+10	+12	+10	+8
[T][S][HP]	+4	+2	+9	+8	+4	-1	+2	+4	+4	+5	+6	+3
[T][S][HP]Async	+7	+6	+10	+8	+5	+2	+5	+6	+7	+8	+7	+6
[T][S][L]	+2	-2	+2	+6	+3	-3	-2	+2	+0	+4	+2	-1
[T][S][L]Cache	+7	+6	+10	+10	+9	+3	+4	+9	+9	+9	+7	+8
[T][S]Sparse	+11	+14	+12	+11	+11	+13	+9	+11	+9	+14	+12	+8
step_sgd	-3	-4	-1	-4	-4	-3	-6	-6	-9	-3	-5	-5
step_tween	-4	-8	-2	-5	-5	-10	-5	-3	-8	-5	-7	-5
step_tween_chain	-5	-5	-2	-2	-6	-7	-6	-7	-10	-3	-4	-7
tween	-3	-2	+1	-1	-1	-2	-3	-1	-5	+1	-2	-3
tween_chain	-2	-2	+1	+2	+3	-1	-1	-3	-3	-1	+3	-3

AvailD vs sgd, every mode x dtype (cols 13-24)

AvailD vs sgd, every mode x dtype (cols 13-24)

	int16	int2	int3	int32	int4	int5	int6	int64	int8	nf4	ternary	uint
MeshBP	-1	-0	-1	+1	-6	-3	+2	-0	-1	-4	-4	-5
Mesh[T]	-4	-5	-4	-3	-3	-4	-3	-2	-5	-5	-4	-3
Mesh[T]Alt	-7	-8	-8	-6	-10	-8	-7	-5	-9	-9	-9	-11
Mesh[T]Chain	-2	-4	-1	-3	-5	-6	-0	-1	-1	+1	-5	-5
Mesh[T][S]	+10	+4	+8	+6	+3	+10	+11	+9	-0	+8	+3	+6
Mesh[T][S][FP]	+6	+6	+10	+7	+4	+10	+11	+9	+4	+6	+4	+5
Mesh[T][S]Sparse	+11	+12	+15	+13	+14	+12	+13	+13	+12	+10	+12	+8
Step[T]Alt	-9	-12	-11	-11	-11	-12	-12	-9	-9	-10	-11	-13
Step[T][S]	-1	-2	-4	+1	-3	-4	-1	+1	-2	-2	-3	-6
[T]Alt	-7	-4	-10	-5	-13	-8	-8	-5	-7	-9	-12	-13
[T][S]	+8	+4	+6	+7	+2	+4	+10	+6	+0	+4	+2	+6
[T][S][FP]	+10	+9	+12	+10	+5	+12	+12	+11	+6	+7	+6	+8
[T][S][HP]	+4	+5	+5	+5	+2	+6	+7	+6	-1	+7	+3	+6
[T][S][HP]Async	+9	+8	+9	+6	+4	+7	+10	+8	+3	+5	+4	+5
[T][S][L]	+1	-6	+3	+4	-6	+5	+5	+3	-3	-4	-5	-1
[T][S][L]Cache	+8	+6	+8	+6	+4	+9	+11	+9	+2	+5	+7	+6
[T][S]Sparse	+10	+15	+12	+11	+13	+10	+13	+11	+10	+9	+13	+8
step_sgd	-4	-2	-5	-1	-5	-6	-7	-3	-5	-5	-4	-6
step_tween	-6	-2	-5	-5	-1	-6	-9	-7	-8	-7	-12	-7
step_tween_chain	-4	-6	-8	-1	-7	-7	-4	-2	-4	-8	-5	-8
tween	-1	-0	-3	-3	-2	-3	-3	+1	-1	-1	-0	-2
tween_chain	+0	-0	-1	-2	-5	-2	-1	-1	-4	-3	-5	-3

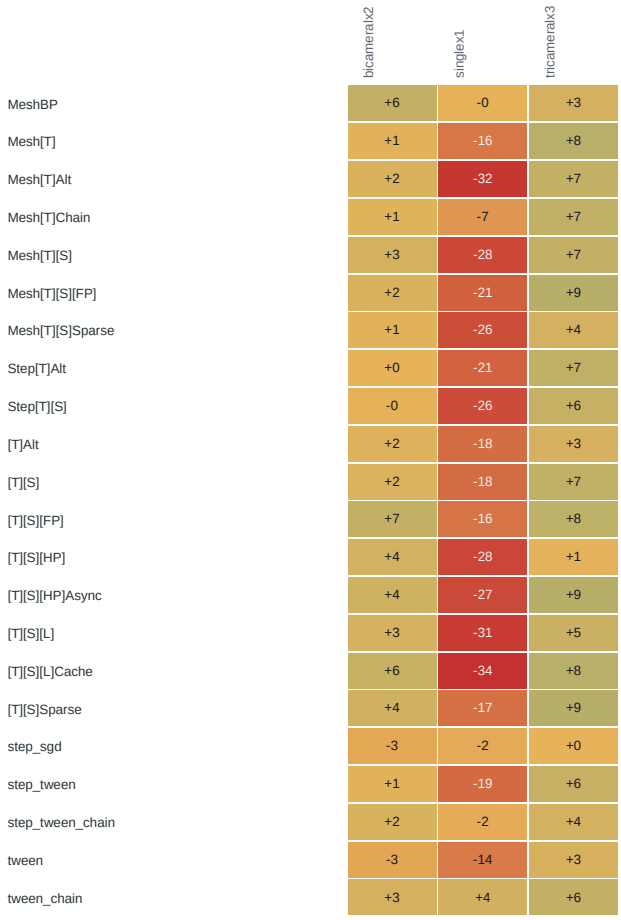
AvailD vs sgd, every mode x dtype (cols 25-34)

AvailD vs sgd, every mode x dtype (cols 25-34)

	uint16	uint2	uint3	uint32	uint4	uint5	uint6	uint64	uint8	uintptr
MeshBP	-6	-1	-2	-1	-3	+1	-1	-4	-4	-8
Mesh[T]	-3	-4	-2	-3	-2	-3	-3	-0	-4	-7
Mesh[T]Alt	-6	-8	-8	-6	-8	-5	-10	-7	-8	-11
Mesh[T]Chain	-2	-5	-2	-2	-4	-2	-4	-1	-2	-6
Mesh[T][S]	+8	+6	+8	+9	+7	+11	+11	+8	+3	+4
Mesh[T][S][FP]	+9	+6	+8	+9	+7	+9	+9	+7	+3	+5
Mesh[T][S]Sparse	+10	+9	+11	+9	+10	+14	+11	+10	+11	+6
Step[T]Alt	-11	-12	-11	-8	-8	-13	-15	-11	-12	-15
Step[T][S]	+1	-3	-3	-1	-2	-1	-3	-2	-2	-2
[T]Alt	-10	-12	-11	-8	-10	-9	-6	-10	-9	-12
[T][S]	+6	+3	+6	+6	+5	+8	+5	+4	+3	+3
[T][S][FP]	+10	+8	+11	+11	+10	+12	+11	+9	+6	+6
[T][S][HP]	+5	+5	+7	+4	+5	+7	+6	+6	+1	+1
[T][S][HP]Async	+6	+7	+9	+8	+6	+10	+8	+5	+1	+5
[T][S][L]	+2	+3	+6	+3	+1	+4	+4	+3	-1	-1
[T][S][L]Cache	+8	+6	+8	+10	+8	+9	+8	+8	+3	+5
[T][S]Sparse	+11	+8	+10	+9	+10	+12	+11	+10	+8	+7
step_sgd	-3	-6	-5	-2	-4	-5	-8	-5	-5	-9
step_tween	-8	-7	-9	-5	-7	-6	-8	-7	-10	-10
step_tween_chain	-5	-7	-7	-7	-7	-7	-8	-8	-6	-11
tween	-1	-2	-5	+1	-3	-5	-4	-2	-6	-6
tween_chain	-3	-4	+0	-0	-6	-1	+1	+0	-3	-6

AccD vs sgd, every mode x arch

AccD vs sgd, every mode x arch



Family collapse - Step* vs non-Step

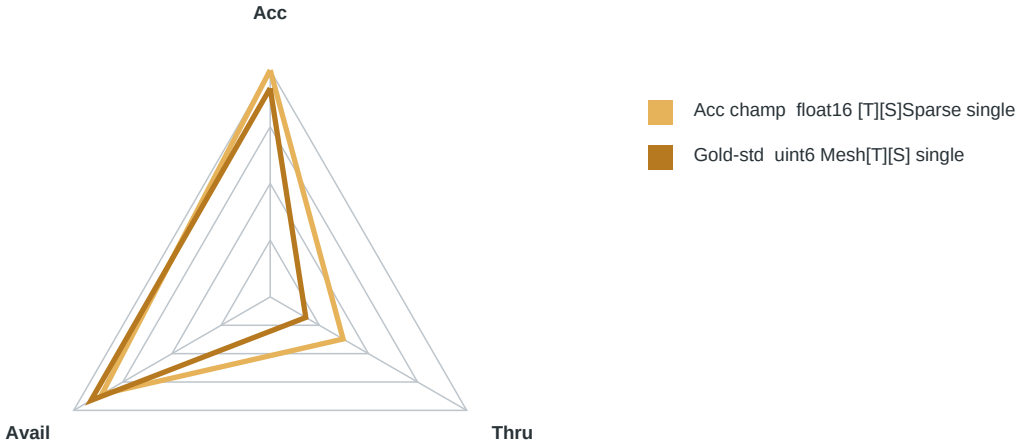
Step* is a 1D pipe (one sample enters layer 0 per tick; output is the sample that entered depth ticks ago). Non-Step of the same family is a full-chain update. AccD is a real scheduler split, not leftover warm-up forwards.

step	plain	n	mean |AccD|
Step[T]Alt	[T]Alt	102	14.74
Step[T][S]	[T][S]	102	14.63
step_sgd	sgd	102	9.99
step_tween	tween	102	12.31
step_tween_chain	tween_chain	102	11.46

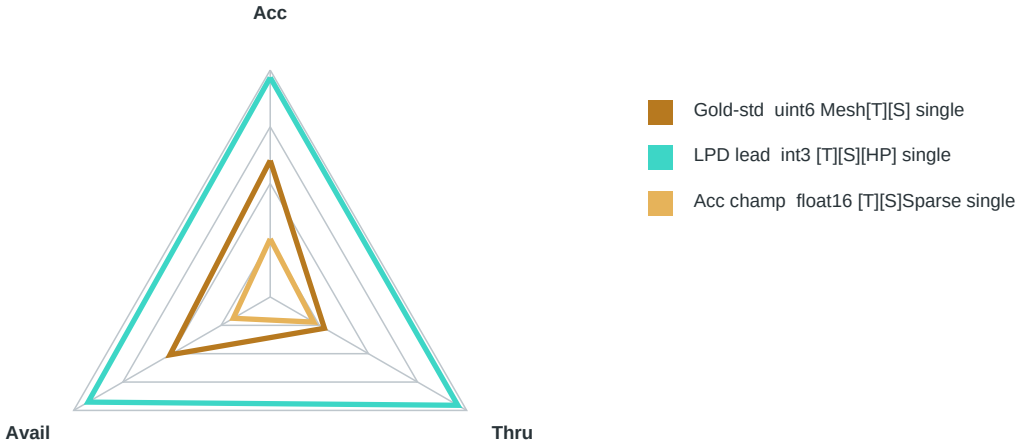
Consciousness - Acc, Throughput, Availability

Synthetic organism / Lucy density: can the net run and train at the same time in a small box. Lucy Score = Throughput x Availability x Acc / 10,000 (hard Acc; SoftAcc is serve-confidence only). SGD that blocks serve dies on Availability. Q = geomean Acc/Thru/Avail vs learner peaks (traps do not set Thru/Avail). LPD = Q x shrink vs Acc-champ RAM; 0 unless Acc keep >=70%. Gold = all 3 pillars >=80% at <=20% Acc-champ RAM. Gold-std = Acc >=80% plus Thru or Avail, then smallest then fastest. Score/MiB is the binary trap.
Acc champ float16|none|[T][S]Sparse|single|simd Acc 94.7 Thru 4683 Avail 41.1% 0.5 KiB (RAM reference)
Lucy Score champ (T x Avail x Acc) float32|none|[T][S][FP]|single|simd Score 4865.4 Acc 80.4 Soft 26 0.9 KiB
Live-fit champ (best Q) float32|none|[T][S][FP]|single|simd Acc 80.4 Thru 12621 Avail 48.0% 0.9 KiB
Gold-std (2+ pillars, Acc keep >= 80%, then smallest then fastest): uint6|none|Mesh[T][S]|single|simd mode Mesh[T][S] Acc 87.1 Thru 2287 0.2 KiB
Board fastest float32|none|[T][S][FP]|single|simd Thru 12621 (traps may own this) Best availability float32|none|[T][S][FP]|single|simd 48.0%
Learner Thru peak 12621 learner Avail peak 48.0%

Consciousness radar - Acc / Thru / Avail vs learner peaks



Memory density radar - same pillars x shrink vs Acc champ (traps sit at origin)



No gold cell yet. Need all three pillars at 80% of learner peaks in one fifth of Acc-champ RAM.

Gold-standard train modes - 2+ pillars, Acc keep >= 80%, smallest then fastest

Mode	n	Acc	KiB	Thru	Cell
Mesh[T][S]	1	87.1	0.2	2287	uint6 Mesh[T][S] single
sgd	2	89.1	0.2	11828	int8 sgd single / float32 sgd single
step_tween_chain	1	77.7	0.2	8464	int8 step_tween_chain single
Mesh[T][S][FP]	1	76.9	0.2	3301	fp8e5m2 Mesh[T][S][FP] single
tween_chain	2	94.0	0.5	11337	int16 tween_chain single / float32 tween_chain single
[T][S]Sparse	2	94.7	0.5	7013	float16 [T][S]Sparse single / float32 [T][S]Sparse single
[T][S][FP]	3	85.8	0.9	12621	float32 [T][S][FP] single
MeshBP	1	83.8	0.9	8890	float32 MeshBP single
[T][S]	1	77.6	0.9	4314	int32 [T][S] single
step_sgd	1	82.1	0.9	6303	uint32 step_sgd single

Near-gold - 2+ pillars, RAM <= 50% of Acc champ

Band	Cell	Acc%	Thru%	Avail%	Q%	RAM%	xSmall	LPD	Acc	Thru	KiB
near	int8 sgd single	83	84	79	82	50	2.0	1.64	78.3	10568	0.2

Band	Cell	Acc%	Thru%	Avail%	Q%	RAM%	xSmall	LPD	Acc	Thru	KiB
near	int8 step_tween_chain single	82	67	80	76	50	2.0	1.52	77.7	8464	0.2
near	uint6 Mesh[T][S] single	92	18	91	53	39	2.6	1.36	87.1	2287	0.2
near	fp8e5m2 Mesh[T][S][FP] single	81	26	83	56	50	2.0	1.12	76.9	3301	0.2

Lucy density (LPD) - Q x shrink vs Acc-champ RAM; 0 if Acc keep < 70%

Band	Cell	Acc%	Thru%	Avail%	Q%	RAM%	xSmall	LPD	Acc	Thru	KiB
-	int3 [T][S][HP] single	71	30	80	56	19	5.3	2.94	67.4	3806	0.1
-	int3 [T][S][HP]Async single	74	25	86	54	19	5.3	2.87	69.7	3155	0.1
near	int8 sgd single	83	84	79	82	50	2.0	1.64	78.3	10568	0.2
acc	uint8 tween_chain single	91	75	78	81	52	1.9	1.57	86.3	9470	0.2
acc	int8 tween_chain single	97	69	71	78	50	2.0	1.56	91.5	8716	0.2
acc	uint8 sgd single	92	76	71	79	52	1.9	1.53	87.3	9544	0.2
near	int8 step_tween_chain single	82	67	80	76	50	2.0	1.52	77.7	8464	0.2
-	int8 tween single	71	80	77	76	50	2.0	1.52	67.2	10052	0.2
acc	int8 MeshBP single	88	61	78	75	50	2.0	1.49	83.1	7715	0.2
acc	fp6 sgd single	85	28	72	56	38	2.7	1.48	80.5	3533	0.2
acc	int8 step_sgd single	84	68	67	73	50	2.0	1.45	79.6	8549	0.2
-	int8 Mesh[T]Chain single	72	62	86	73	50	2.0	1.45	67.7	7860	0.2
acc	uint8 MeshBP single	91	61	69	73	52	1.9	1.41	86.4	7675	0.2
-	uint6 sgd single	73	29	74	54	39	2.6	1.37	68.9	3649	0.2
-	uint6 tween_chain single	74	28	73	54	39	2.6	1.37	70.4	3571	0.2
near	uint6 Mesh[T][S] single	92	18	91	53	39	2.6	1.36	87.1	2287	0.2
acc	uint8 Mesh[T]Chain single	88	54	72	70	52	1.9	1.36	83.8	6774	0.2
-	int8 step_tween single	73	58	67	66	50	2.0	1.32	69.4	7352	0.2
-	uint8 step_sgd single	79	63	63	68	52	1.9	1.31	75.3	7919	0.2
acc	uint8 step_tween_chain single	82	50	72	67	52	1.9	1.29	78.0	6341	0.2

Consciousness rank - Q = geomean Acc/Thru/Avail keep

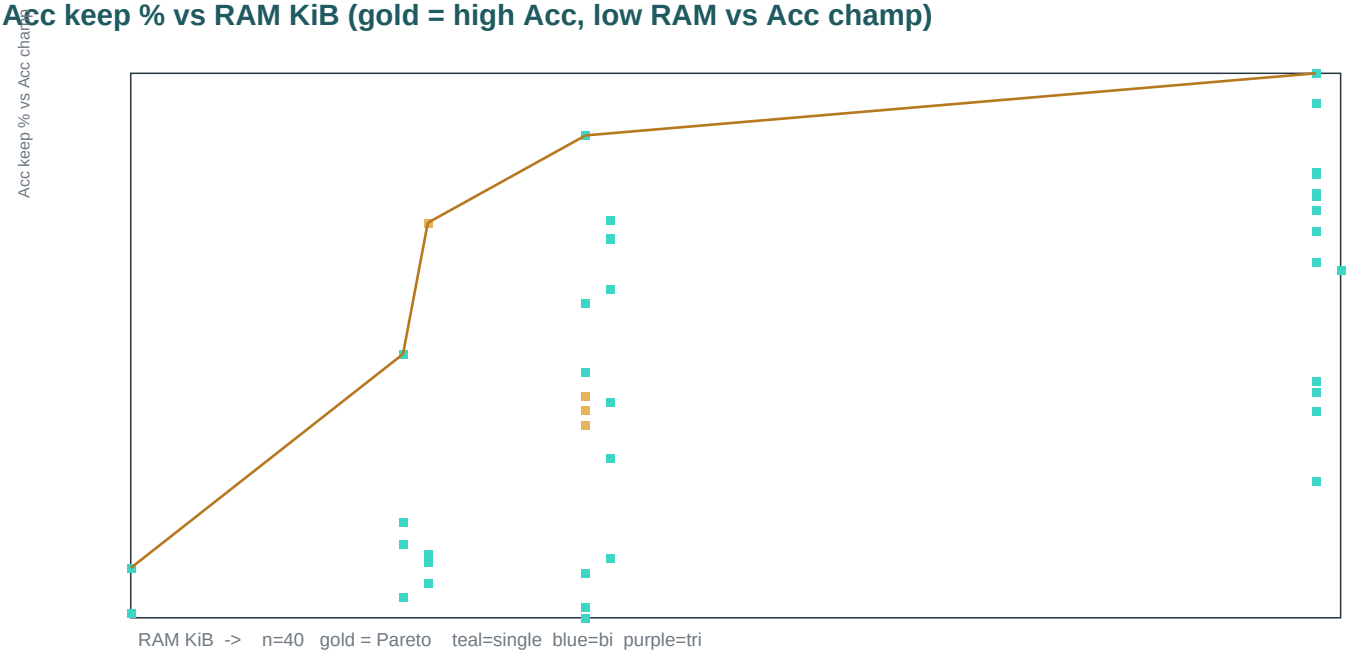
Band	Cell	Acc%	Thru%	Avail%	Q%	LPD	Thru	Avail
keep	float32 [T][S][FP] single	85	100	100	95	0.47	12621	48.0
keep	float32 sgd single	94	94	84	91	0.45	11828	40.5
keep	float32 tween_chain single	99	90	81	90	0.45	11337	39.0
keep	float64 [T][S][FP] single	89	74	97	86	0.22	9316	46.5
near	int8 sgd single	83	84	79	82	1.64	10568	37.8
acc	uint8 tween_chain single	91	75	78	81	1.57	9470	37.5
keep	float32 MeshBP single	88	70	82	80	0.40	8890	39.3
acc	float32 step_sgd single	94	78	69	80	0.40	9813	33.1
acc	uint8 sgd single	92	76	71	79	1.53	9544	34.3
-	float32 Mesh[T]Chain single	78	74	83	79	0.39	9360	39.9

Trap - tiny RAM, Acc keep < 70% (Score/MiB and SoftAcc Score lie here)

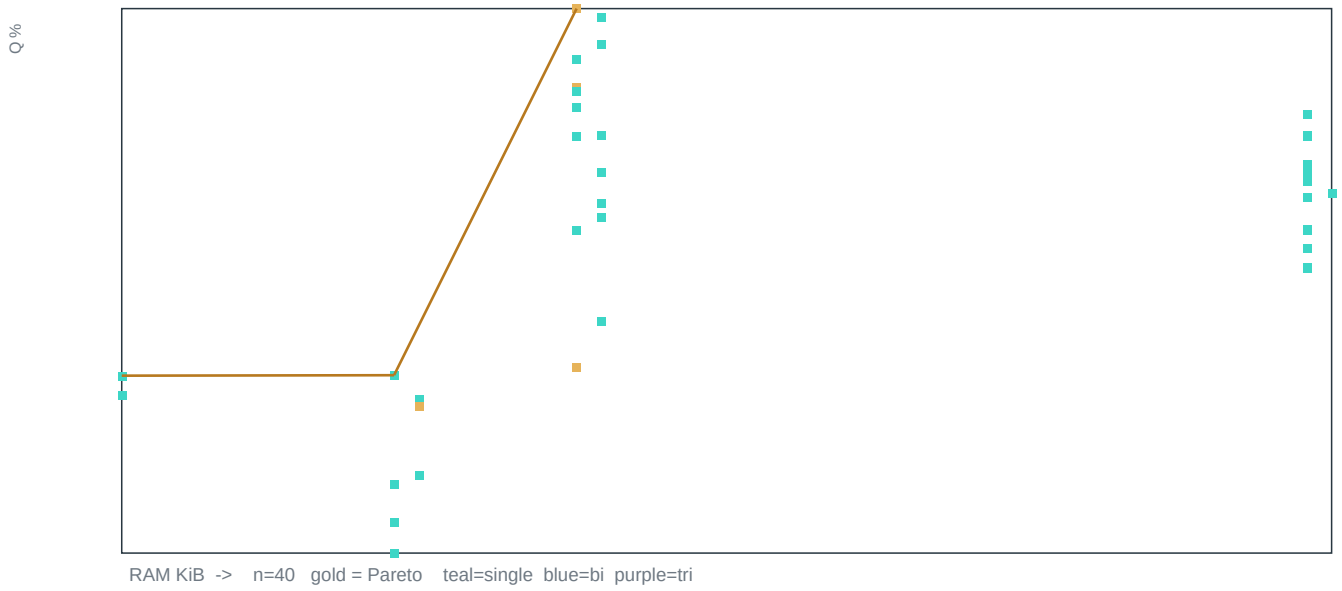
Band	Cell	Acc%	Thru%	Avail%	Q%	RAM%	xSmall	LPD	Acc	Thru	KiB
trap	binary sgd single	14	90	80	47	6	15.7	0.00	13.5	11304	0.0
trap	binary step_sgd single	5	68	61	28	6	15.7	0.00	5.2	8527	0.0
trap	binary tween single	20	69	74	47	6	15.7	0.00	19.1	8731	0.0
trap	binary tween_chain single	36	79	69	58	6	15.7	0.00	34.1	9929	0.0
trap	binary step_tween single	13	50	56	33	6	15.7	0.00	12.3	6310	0.0
trap	binary step_tween_chain single	21	55	68	43	6	15.7	0.00	20.0	6939	0.0
trap	binary MeshBP single	16	59	72	40	6	15.7	0.00	14.8	7402	0.0
trap	binary Mesh[T] single	15	50	61	36	6	15.7	0.00	14.6	6258	0.0
trap	binary Mesh[T]Chain single	18	52	60	38	6	15.7	0.00	16.9	6598	0.0

trap	binary [T][S] single	19	43	75	39	6	15.7	0.00	17.7	5395	0.0

Acc keep % vs RAM KiB (gold = high Acc, low RAM vs Acc champ)

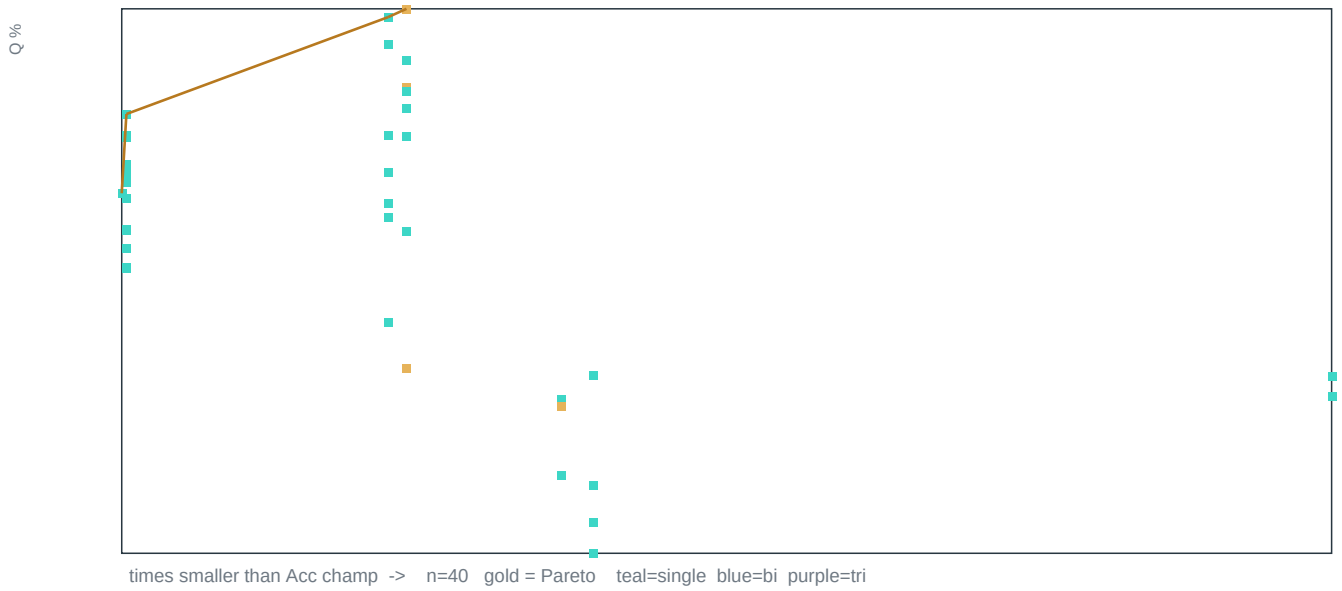


Q% vs RAM KiB (gold = high consciousness, low RAM)



Q% vs shrink vs Acc champ (gold = upper right)

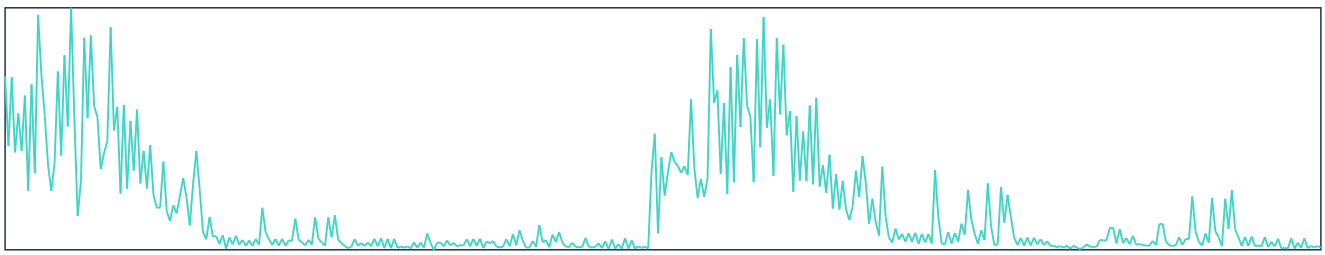
Q% vs shrink vs Acc champ (gold = upper right)



Top Lucy density (LPD)

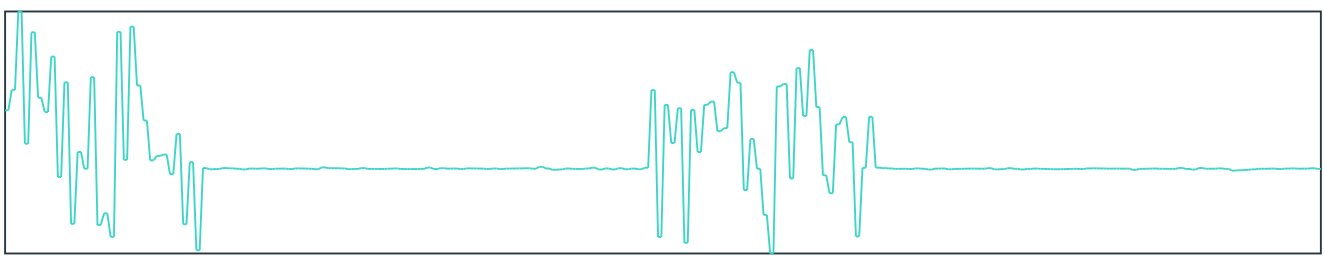


Live pulse (Score)



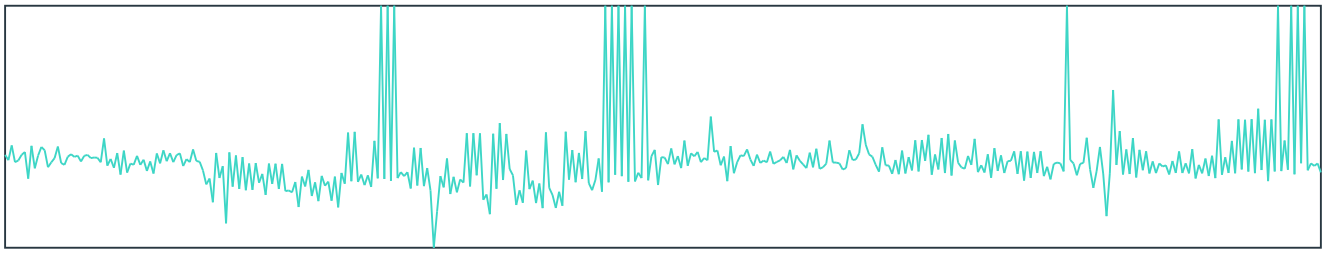
n=400 min=2.40 max=826.32

Live pulse (SoftAcc)



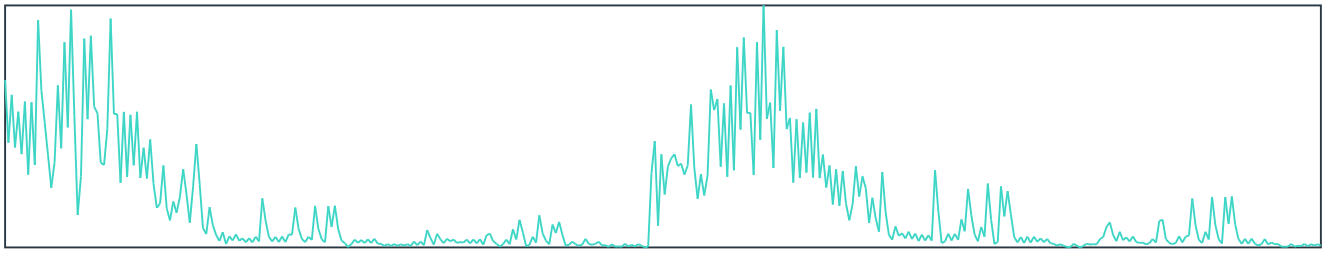
n=400 min=24.58 max=25.78

Live pulse (Availability)



n=400 min=6.96 max=100.00

Live pulse (Throughput)



n=400 min=49.71 max=7927.75

Queue by train mode (this epoch)

Mode	Done	Run	Left	Total